FEEDSTUFFS

★ A WEEKLY NEWSPAPER ★

FOR THE FEED MANUFACTURER, JOBBER, BROKER and DEALER

Volume 28—Number 52 | DECEMBER 29, 1956 | 1 Year $4, 2 Years $7

BROILER PRICES DIP

SALISBURY, MD. — The broiler-feed ratio became more unfavorable last week as broiler prices slid after showing improvement the week before. Prices last week slid to 16.65¢ lb., the average price paid on the farm, compared to 18.42¢ the week before. This caused the meat-feed ratio to slip to 3.6. A pound of broiler would only buy 3.6 lb. of feed compared to 4 lb. the week earlier. Twenty per cent broiler feed prices gained in price only a few cents per ton, selling at $92.68 compared to $92.17 the previous week.

Emergency Grazing of Acreage Reserve Land Extended

WASHINGTON—Extension of the authorization for emergency grazing of soil bank acreage reserve land in designated counties through Jan. 31, 1957, has been announced by Ezra Taft Benson, secretary of agriculture. The announcement extends the acreage reserve emergency grazing, previously authorized through Dec. 31, 1956, in 678 counties or parts of counties in 11 states.

The soil bank law prohibits grazing of land under acreage reserve agreements except in emergency conditions and then only on certification of the governor of the state and the approval of the Secretary of Agriculture. The first approvals under this requirement were announced last July 6, because of drouth conditions. Grazing on acreage reserve is only for the benefit of the producer's own livestock. Leasing by the producer of the soil bank acreage is prohibited as being contrary to the purposes of the acreage reserve program.

The extension will allow time for a reexamination of the need for emergency grazing of acreage reserve land by the governors of the respective

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New Increase in Swine Output Now Seen; Corn Problem Plagues USDA

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON—Top U.S. Department of Agriculture officials are currently wrestling with probably the most critical decision yet encountered by the administration of Ezra Taft Benson, secretary of agriculture.

The problem is what is to be done with the corn and feed grain price support program for the next year.

Related to this problem is the hog production and hog price outlook. (Also see accompanying story on the pig crop.)

On the corn question, there are many shades of opinion among the top brass of the big farm agency. They range all the way from a "bold" approach to meek acceptance of a proposed amendment to the existing laws offered by Sen. Hubert Humphrey (D., Minn.). This amendment would fix a 49-million-acre base allotment for the commercial corn area and make farmers eligible for

(Continued on page 53)

1957 Spring Pig Crop to Approach Total in 1956

WASHINGTON — It looks as though the 1957 spring pig crop will be about in line with previous indications of its size.

It was predicted earlier that the spring season of 1957 might see the end of the pig production downtrend and that the crop might come close to 1956 numbers of spring pigs saved.

Now, the U.S. Department of Agriculture's latest pig crop report indicates that the 1957 spring crop will be no more than 2% below the 1956 spring total.

This slight decrease will follow larger declines in pig crops in 1956 because of low hog prices earlier.

Here's how the pig crop situation shapes up:

Total 1956 Crop: The 1956 pig crop totaled 89.7 million head—a decrease of 6% from 1955, according to USDA. The spring pig crop (December-May) was down 8% from a year earlier and the fall crop (June-November) was off 4%.

Fall Pig Crop: The number of pigs saved in the fall season of 1956 was about 36.5 million head, 4% smaller than the 1955 fall crop.

Fall pig numbers were below a year ago in almost all regions, but it should be noted that there were variations from the general picture in different regions and states. (See table on page 57.)

The north Atlantic states were down 9%; east north central, 1%; west north central (which includes Iowa), 7%; south central, 5%; West, 12%. The south Atlantic region was up 3%.

In this connection, it may be noted that hog production has been increasing in the Southeast. While that region still doesn't account for a very large share of total hog production, swine output, along with other phases of animal agriculture, has continued to gain, even while other regions have shown cyclical downturns.

The number of sows farrowing in the fall of 1956 was 5.2 million head, or 7% smaller than in the fall of 1955. The percentage decrease was the same as indicated by farmers' reports last June and was about in line with a later special report for the Corn Belt.

However, the number of pigs saved per litter in the fall period was up, resulting in a pig crop decrease of only 4%—a smaller decrease than expected. The per-litter average for the fall period was 7, highest on record. The comparison with 1955, the previous high for the fall crop. It is said favorable farrowing weather and further specialization in hog production, with better management, have helped farrowers contributing to the larger litter size.

Compared with a year earlier, distributions of farrowings showed a larger percentage in September-No-

(Continued on page 57)

FEEDSTUFFS *Features This Week*

FEEDING THE BREEDING FLOCK: Information on nutritional requirements of breeder hens, including recent developments and further research needs, is discussed by Dr. Paul E. Waibel on **page 42.**

MEETING A PRICE DROP: Feed men will be interested in an article on **page 18** telling how farmers can adjust their operations to meet price drops and actually increase their income.

NEW PLANT: Described on **page 46** is a new feed plant which culminates 40 years of progress for a New England company.

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Feed Credit Meeting Set for Kansas City

KANSAS CITY—A panel of leading feed credit and financing men will discuss current trends in credit practices at a meeting of the Midwest Credit Assn. at the Phillips Hotel, Kansas City, Jan. 15. Arthur Sandvig, Nutrena Mills, Inc., Kansas City, is chairman of the group.

The panel discussion will begin at 10 a.m. Participating will be David Snodgrass, Quaker Oats Co., St. Joseph; Robert Scharf, Nutrena Mills, Minneapolis; Andrew Stevens, Ralston Purina Co., St. Louis, and Ben Reinking, General Mills, Inc., Minneapolis. The subject of discussion will be, "Where Are We Heading in Feed Financing?"

All credit men in the feed industry are welcome to attend as are any feed mill managers or others who have mill credit responsibilities.

There May Be a Swing From Heavy White Turkeys Back to Beltsvilles

WASHINGTON—The possibility of a decrease in heavy white breed turkey production and a swing back to small breed birds for fryer-roaster production is seen in recent U.S. Department of Agriculture reports on turkeys tested by official state agencies.

The over-all picture of breeder testings shows continued expansion, which is another indication of the possible problem of over-production of turkeys in 1957.

However, within the general picture are some indications of changes.

Other Heavy Breeds Up

The number of heavy white breed turkeys tested for pullorum disease during November was 6% less than in November, 1955, while the number of other heavy breeds tested was 26% larger.

Heavy white breeds tested during November totaled 113,420, compared with 120,434 in the same month of 1955. This decrease followed a decrease in October also. The number tested July through November totaled 334,889—an increase of 19%. But the recent decreases from a year ago in October and November are noted.

Other heavy breeds tested during November, totaled 645,045, compared with 512,794 during November, 1955. The number tested July through November was 1,371,407—an increase of 38%.

The number of light breed turkeys tested during November was 12,477—an increase of 19% over a year earlier. The number tested July through November totaled 28,234—a 19% increase.

This light breed increase, along with the recent heavy white decrease, is considered by some as an indication that there may be a swing from heavy whites back to Beltsvilles, which had been decreasing.

Meanwhile, the USDA report on

(Continued on page 56)

Los Angeles Exchange Opens Grain Grading Office at Colton, Cal.

LOS ANGELES—The Los Angeles Grain Exchange has opened a new grain grading inspection office and laboratory at 719 East I St., Colton Cal. John Reindhardt, chief grain inspector for the exchange announced that Lewis Cates, licensed inspector, woud be in charge. Mr. Cates was formerly with the Tennessee state grain inspection department at Memphis. The sampling and grading will be under the supervision of Al Volkman, federal grain supervisor, Los Angeles.

The U.S. Department of Agriculture, Agricultural Marketing Service grain division, Washington, recently approved the exchange's request to establish a federal official inspection point at Colton for sampling and grading all interstate shipments of grain entering California via Arizona and Nevada by truck or rail. The establishing of this new inspection point will not change the exchange's inspection service at Los Angeles.

Happy New Year!

★ FEEDSTUFFS ★

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A Defender of the Bushel

OUR friend Pete Stallcop has sent to us—and to other trade publications, he has told us—some arguments in opposition to changing the basis for grain trading from bushels to cwts. He contends that proponents of the change have had all the publicity and that opponents have had little. One might get the idea from this, he further says, that everyone is for the change and no one is against it.

Mr. Stallcop is executive secretary of the Northwest Country Elevator Assn., Minneapolis. He formerly occupied a similar position with the Pacific Northwest Grain Dealers Assn., Spokane. He is active in national grain trade association affairs.

We are glad to give Mr. Stallcop the courtesy of our columns under these circumstances, and his offering appears complete on page 6 of this issue of Feedstuffs.

We do not agree that the disadvantages to some segments of the trade in making a change in the trading basis have not been publicized. Neither has the fact been ignored that there are some grain traders who are reluctant to change for personal reasons—such as the work of adapting records, or because they are interested solely in storage, or futures. A review of news stories and editorial comments on the cwt. vs. bushels subject appearing in Feedstuffs over a period of several years establishes clearly that all of the objections to the change have been given publicity, not once but a number of times. The real point, however, which Mr. Stallcop apparently is failing to grasp, is that there is such a preponderance of advantages in the change to such a majority of those who raise, handle or process grain that the objections seem limited and weak by contrast.

Actually, proponents of the change have gone almost to extreme lengths to avoid giving the impression that they are trying to force the change prematurely by reason either of numbers or influence. The groups who have expressed themselves in favor of the change and who have been working actively to bring it about represent a wide range from the farmer to the consumer. They also represent a very large majority of grain users—of those who offer the end market for grains. It is probable that their combined weight could have forced the change to cwts. into widespread if not universal use if that had been the objective. The opposite attitude has prevailed. It was expressed by a spokesman for the committee of purchasing agents of the American Feed Manufacturers Assn. at the annual meeting of that organization last May.

"We are following a policy of slow but steady progress," he said. "We want all of the facts known by everyone who produces or trades in grain. We would rather have opposition to the change melt away than to rush the change through by forced methods. It is evident that this is happening. Some of the grain men who formerly expressed opposition to the hundredweight basis now have changed their minds."

★ ★ ★

AS for Mr. Stallcop's specific objections to the change, they have all been advanced and answered several times. It is recognized by everyone, of course, that a large amount of work will be involved in record changing. This aspect has been studied and the problem is not as large as it is made to appear. Certainly, it is not insurmountable, nor will it necessarily involve every operator all along the line in bookwork. Once the records are changed, there's nothing more to be done. Under the present system, it has been brought out, at least 12 costly, time consuming conversions between bushel and hundredweight are required every time oats, for instance, are sold from the farm for livestock feed or human food consumption. To eliminate these steps is not just to make life easier for an accountant; it is to save money and valuable time for everyone involved.

Nor are there any insurmountable restrictions in federal and state laws that would prevent a change to a cwt. basis in grain trading. Adjustments would be necessary, certainly, but adjustments have been made many times before in regard to many things. An example often cited is the switch in the flour weight basis from barrels to 100-lb. multiples. There were a great many who said such a transition was so difficult—for more or less the same reasons as are given in connection with grain trading—that it could not be done successfully. Yet when it was adopted as a result of a government war measure, it hardly caused a ripple of confusion. Records and laws had to be revised, true, but it was not the gigantic task that had been pictured.

Mr. Stallcop says that "all an elevator operator has to sell is space." Many elevator operators have been governed by that belief in recent years, although actually an elevator operator is also in the very important business of collecting, conditioning and merchandising grain. In this latter approach, his value is in the service he renders to farmers and to processors, primarily. If he continues to believe that all he has to sell is space, he is taking the path of least resistance for current income, but the pendulum is swinging the other way, and he had better begin looking for ways to best serve those from whom he will buy and to whom he will sell.

It seems to us that Mr. Stallcop's contention is that the tail should wag the dog, if we can use a trite but appropriate expression. We believe that the evidence shows strongly that the greatest economies will come with a change from a bushel to a cwt. basis in grain trading. We continue to believe that such a change is inevitable.

A FEEDSTUFFS FORMULA FEEDS: HOW'S BUSINESS? FEATURE

A holiday slow period in feed business was a dominant factor in trade this week, although there were instances of stepped up orders that kept production at a high level at some plants. Mild weather in broad areas of the country continues to hold demand for certain types of feed below seasonal expectations, although most manufacturers appear to be fairly optimistic about prospects for improvement once business settles down to a normal pace after Jan. 1. Ingredient price changes were mixed, with millfeeds and soybean meal easing off and animal by-products and alfalfa meal advancing. (Ingredient market details on pages 54-56.)

Northwest

Formula feed business was maintained at levels of recent weeks, most manufacturers report, and in some instances a heavy rush of shipping orders put a considerable strain on production facilities.

Dairy feeds were moving in large volume, and feed for beef cattle in feed lots also was going out in larger quantities. Growing demand for range cattle feed in western areas was offset somewhat by tightening of credit and limited purchasing power of feeders, some manufacturers said.

Sales of other feeds held up to seasonal levels in most cases, and turkey concentrates for breeder flocks were in heavier demand.

Shipments this week were stimulated by the start of carrying on charges after Jan. 1 on cattle feeds purchased on bookings.

The holiday interruption of production made it necessary to plan week end runs at some of the larger plants in order to keep up with orders. Shipments to states where inventory taxes are assessed on Jan. 1, delayed up to now, will probably provide a further stimulus to production in the next several days.

Southwest

Feed business in the Southwest this week seems to be about the same as last week. Most mixers call the pace steady to a little slower. Those mixers who note a slight improvement attribute it to the shutdowns over Christmas and Dec. 24. Another factor that is mentioned as having possibly caused business to pick up a little this week is that feed ordered now will fill out depleted dealer supplies but arrive after inventories are taken. In some of the states, the Jan. 1 date is used as a basis for inventory taxes.

The effect of the freight rate increase, which went on Dec. 28 is minimized as a business stimulant, since most feed doesn't move far enough to make the increase a reason for stocking up, especially in view of the traditional post-Jan. 1 weakening of prices that is expected. While mixers don't seem overly gloomy, the consensus seems to be that business won't pick up much before the end of January.

Cattle feed sales are said to be pretty good, but orders against contracts from Nebraska feeders have been slow in coming in because of balmy weather in that area. Other types of feed seem to be moving at about the same pace as recently.

Several mills are having to run extra time this week to make up for production lost during the Christmas shutdown. Saturday running time will not be uncommon. Some mills are having their men put in a little overtime. Generally, mills will be down only New Year's Day next week. The average this week seems to be 3½-4 days, two shifts.

Prices are anticipated to be steady to $1 lower.

Feed business in Texas is in the holiday doldrums, and a pickup isn't looked for until after the completion of year-end inventories. The feeling is that most dealers were fairly well stocked in advance of the holidays. Despite expectations that the New Year week will also be slow, optimism is expressed about over-all January business.

Mills in Texas generally ran all but Christmas Day this week. Some are running a half to a full day Saturday to make up for the down time. Much the same pattern is looked for next week. Prices are steady.

Ohio Valley

While everyone associated with the feed industry was enjoying the holiday season this week, and business was at its low point for the year, manufacturers were unanimous in predicting there will be a seasonal pickup in sales of formula feeds early in the new year, and it is indicated this pickup will be of considerable volume.

This pickup will be welcomed, in view of the continued lag in sales which has prevailed through much of this year. This has resulted in the total sales volume of area mills being somewhat below that of the previous year, it was indicated in a survey this week.

While repeated predictions of colder weather during recent weeks have failed to materialize in this area, it is hoped that freezing temperatures will be more prevalent during the remainder of the winter. Another helpful factor is a hoped-for continuance of the present high employment record to insure volume retail sales of meats and eggs.

Hog and dairy feeds accounted for

(Continued on page 58)

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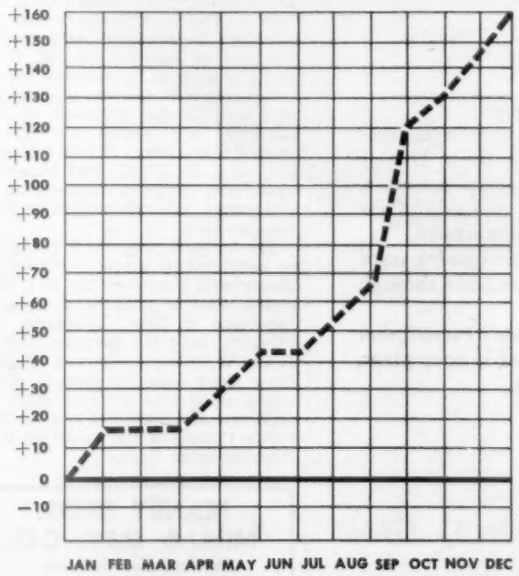
Price Stability Comparison of Blackstrap Molasses and SU-CO-LASS



% change from January 1, 1956

Based on average monthly price of Blackstrap Molasses at large midwest city (Minneapolis)

Based on average price of SU-CO-LASS at Chicago

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USDA Announces Acreage Reserve Regulations for '57

WASHINGTON—Regulations covering the Acreage Reserve program of the Soil Bank for 1957—the first full year of operation for this new agricultural legislation — were announced Dec. 26 by Ezra Taft Benson, secretary of agriculture.

"The new regulations embody several important changes and additions to those in effect for the emergency Acreage Reserve program of this year," Mr. Benson explained. "In spite of a relatively good start, we do not consider that this year's program was a fair trial of the surplus-reducing possibilities of the soil bank. We anticipate a much more successful program in 1957."

Among the more important provisions of the new regulations are the following:

1. A national allocation of 1957 Acreage Reserve funds among the commodities to be covered in the 1957 program — wheat, corn, upland cotton, tobacco, and rice.

2. A breakdown of these commodity allocations among producing states and counties within them.

3. Establishment of maximums on the amount of acreage of a particular crop that a farmer may place under acreage reserve.

4. There will be no minimum acreage limitations on the amount of land except those already in effect for 1957 wheat.

National allocations include $267,630,000 for spring and winter wheats, with corn and cotton at $217 million each.

Deadline for signing 1957 Acreage Reserve agreements will be March 8 for corn, spring wheat, and rice.

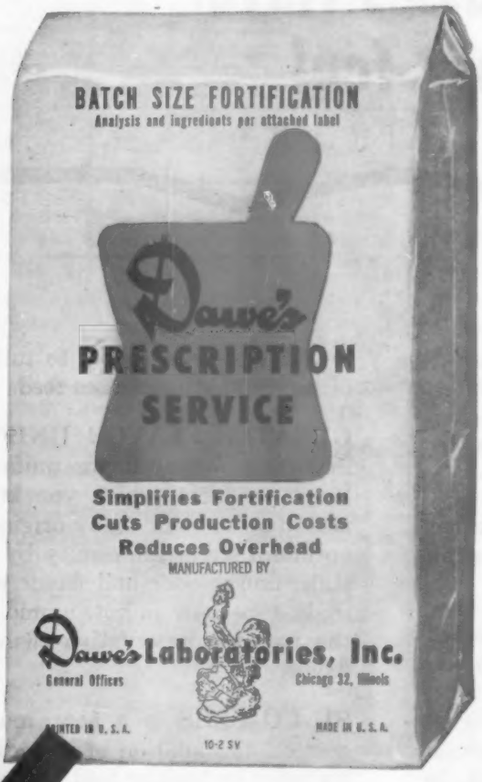
Mr. Benson also announced national average dollars-and-cents payment rates per acre which will apply in administration of the 1957 acreage reserve programs for five basic crops.

The national average payment rates per acre are:

Wheat $20.04, upland cotton $54.15, corn $42.66, rice $63.18, flue-cured tobacco (11-14) $255.42, burley (31) $295.74, Maryland (32) $147.73, fire-cured (21-23) $172.90, dark air-cured (35-36) $175.20, Virginia sun-cured (37) $138.12, cigar filler (42-44) $145.35, cigar binder (51) $336.68, cigar binder (52) $345.42, cigar binder (54) $125.60, and cigar binder (55) $166.98.

PENNSYLVANIA REPORT

HARRISBURG, PA. — For 1955 sales, 8,065 brands of feeding stuffs were registered and 1,451 licenses were issued to 1,058 manufacturers, according to a bulletin of the Pennsylvania department of agriculture.



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John E. Brennan to Be Candidate for Chicago Exchange's Top Post

CHICAGO—John E. Brennan, former director of the Chicago Board of Trade and more recently its vice chairman, will be a candidate for the chairmanship of the board at the election to be held Jan. 21. A petition bearing the necessary signatures and endorsing his candidacy was filed in his behalf on Dec. 24. He will oppose Thomas E. Hosty, Sr., who was the choice of the nominating committee for the post.

In addition to having served six years on the governing board of the exchange as well as its vice chairman, Mr. Brennan has represented the Chicago Board of Trade on the Grain Exchange Council which headquarters at Washington. He has been a member of the exchange since 1937 and is a partner in the firm of John E. Brennan & Co., engaged in the commission business.

Mr. Brennan's opponent for top spot at the world's largest grain exchange, Thomas E. Hosty, Sr., is a partner in Sincere & Co., grain and security dealer. Mr. Hosty served nine years as a director of the board and in 1955, he made an unsuccessful campaign for its presidency. Currently, he holds no office with the board of trade but is chairman of the board of governors of the Board of Trade Clearing Corp.

Topics Announced for Virginia Nutrition School Feb. 19-20

ROANOKE, VA.—The use of hormones in ruminant nutrition, antibiotics in poultry nutrition and reports on research at Virginia Polytechnic Institute, Blacksburg, will be among the subjects for discussion at VPI's 10th annual Nutrition School Feb. 19-20. The event will be at the Hotel Roanoke here. Paul M. Reaves, professor of dairy science, VPI, is chairman of the Nutrition School committee.

Dr. Wise Burroughs, Iowa State College, will discuss hormones in ruminant nutrition Feb. 19. Other topics and speakers Feb. 19 will include: "Mineral Supplements and Phosphorus Availability," by Dr. Paul H. Phillips, University of Wisconsin; "Coarse and Fine Feeds for Dairy Cattle," Dr. R. B. Becker, University of Florida; and reviews of nutrition research by VPI staff representatives.

Recent developments in poultry nutrition will be discussed on Feb. 20 by Dr. George M. Briggs, National Institutes of Health, Bethesda, Md., and Dr. R. C. Klussendorf, Commercial Solvents Corp., Terre Haute, Ind. "Rumen Digestion Research and Applications in Feeding Dairy Cattle" will be the topic of Dr. W. E. C. Moore, Virginia agricultural experiment station. C. Grattan Lindsey, Jr., president, Lindsey-Robinson & Co., Roanoke, will discuss the Kansas State College school of feed technology and C. F. Bruce, feed inspection supervisor, Virginia department of agriculture, will talk on new feed law requirements.

The banquet program Feb. 19 will be headlined by a talk on "Food for Tomorrow's Meals" by Dr. E. I. Robertson, director of nutrition, John W. Eshelman & Sons, Lancaster, Pa. Presiding over the program will be James W. Moyer, president, Virginia State Feed Assn., co-sponsor of the school along with VPI, the state department of agriculture and the Nutrition Council of the American Feed Manufacturers Assn.

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CCC Grain Storage Program Passing Expansion Peak, USDA Officials Say

WASHINGTON — The Commodity Credit Corp. is apparently nearing the end of the largest grain storage expansion in history, the U.S. Department of Agriculture reports.

The U.S. corn crop during the past year was large and USDA officials expect relatively tight storage situations in some regions of the middle west at corn "take-over time" next summer, but there are definite signs that nationwide the peak of the emergency may be over. Reports reaching USDA indicate increased availability of normal storage space in general grain producing areas.

USDA said vigorous sales efforts have moved increasing volumes of accumulated surplus stocks and the new Soil Bank also paves the way for production adjustments in major surplus stocks.

When surpluses began to pile up after World War II, and again when the special demands of the Korean outbreak slacked off, serious storage shortages developed. To meet the emergency, USDA initiated special assistance programs to expand commercial, cooperative, farmer and CCC storage.

The special CCC storage has been regarded as emergency space, to be provided only when normal commercial facilities were not adequate, USDA officials said. Up to this time, however, the mounting needs for storage have required a broad expansion program.

Here are the highlights of that program, as reported at year-end by USDA:

Bins: In June, 1949, CCC owned only 45 million bushels of bin-type capacity that could be used for storing CCC-owned grain. As surpluses began to build up, CCC found it necessary to buy more and more bins. By the end of 1952, bin capacity had been increased to 552 million bushels. Mounting surpluses required further purchases, and by June, 1954, capacity had been brought to 884 million bushels. At the present time, CCC is able to store 984 million bushels of grain in its own bins.

Bin-type storage is used primarily for corn, and most of CCC's "bin sites" are in the Corn Belt. Storage of corn in the areas where it will ultimately be used as a livestock feed helps, of course, to minimize transportation and handling charges on this grain.

Ships: Most of CCC's 874 million bushel wheat inventory is stored in commercial elevators throughout the country. However, CCC has made arrangements with the Maritime Administration to use 370 idle merchant ships of the reserve fleet for the storage of CCC-owned wheat. Wheat is stored on ships anchored in the Hudson River at Jones Point, N.Y.; in the James River, at Fort Eustis, Va.; on Puget Sound at Olympia, Wash., and in the Columbia River at Astoria, Ore. At the end of October, the ships were providing storage for 83 million bushels of wheat.

Farm storage facility program: CCC makes loans to farmers, through County Agricultural Stabilization and Conservation Committees, to finance new on-farm storage facilities. Loans, up to 80% of the cost of the structure, are payable in four annual installments at an annual interest rate of 4%. Since the program began in 1949 loans of $84 million have been made on structures aggregating 302 million bushels of storage capacity.

Occupancy guaranty program: In August, 1953, CCC announced that it would make payments to commercial grain warehousemen if occupancy of newly constructed commercial-type storage facilities fell below specified levels. The object of the program was to encourage construction of commercial storage space in areas where additional space was needed. Acceptance of applications was discontinued in August, 1954. Outstanding agreements at the end of October, 1956, covered 180 million bushels of space.

NEW PARTNER—Gerard C. Specht (left), new partner in Mitchell, Hutchins & Co., Chicago, is shown being welcomed to his new post by Arthur C. Harrison, partner in charge of the commodity department. Mitchell-Hutchins is a stock and commodity brokerage firm with offices in Chicago, New York, and a newly opened branch in Memphis. Mr. Specht has been with the firm since 1950, beginning as a messenger on the board of trade, where he now is a registered representative. He will handle commodity and stock accounts. He and Mrs. Specht have three children and live in Wilmette. He graduated from the University of Notre Dame in 1949 and Chicago Kent College of Law in 1954, and is a member of the Chicago and Illinois bar associations. Also named as new partners were T. Stanton Armour in the securities department, and Ralph L. Kennedy, office manager of the firm.

1956 Feed Grain Output Near Record Despite Fewer Acres

WASHINGTON — Production of soybeans reached a new record in 1956, corn production exceeded the 1955 output while hay, oats, barley and all sorghums fell below the 1955 outturn, according to the 1956 annual summary of crop production by the U.S. Department of Agriculture.

The total feed grain production of about 130 million tons was only 1% below 1955 from 14.4 million fewer acres of land and was only 4% below the record feed grain year of 1948.

Total crop production equalling the previous record was achieved in 1956 from the smallest total harvested acreage in 20 years. Average yields per harvested acre set new over-all record levels with few crops falling below average. The large total outturn was attained in a growing season with late cold spring weather and drouth threats or damage to crops over large areas of the U.S.

New high yield per acre records were set in 1956 by corn and barley. Yields for soybeans and sorghum grain were at above average to near-record levels. Sorghum forage and silage failed to exceed 10-year average yields. The Agricultural Marketing Service of USDA said that abandonment of lower yielding acreage of many crops had an important influence in raising the yield average for the acreage actually harvested.

The total acreage of crops planted or grown in 1956 was about 346 million acres, about 8 million acres or 2% less than in 1955 and the smallest planted in any year since 1939.

Corn Production Up 7%

The production of all corn in 1956, at 3,451 million bushels, is 7% above the 1955 crop and is exceeded only by the record crop of 3,605 million bushels in 1948. While acreage has declined during the past decade, yields have moved upward. The current yield of all corn at 45.4 bu. per harvested acre is far above the 40.6 bu. in 1955 and well exceeds the previous record of 42.5 bu. in 1948.

An excellent corn crop was harvested this year in northern and eastern parts of the Corn Belt, and in most mid-Atlantic, Rocky Mountain and Pacific states. However, a severe drouth for the second consecutive year held yields for 1955 and 1956 at comparatively low levels in the western Corn Belt area. Production of corn for grain is estimated at 3,081 million bushels compared with 2,884 million bushels last year and the average of 2,782 million bushels.

Oats Production Down

Oats production in 1956 was the smallest in 12 years. Estimated at 1,153 million bushels, this year's crop was 23% smaller than the near-record 1955 crop and 13% smaller than the average. The small crop was the result of a sharp reduction in acreage harvested for grain which, at only 33.6 million acres, was the lowest in 17 years. In addition to the usual diversion of seeded acreage to hay, pasture and other uses, more oats than any other crop were plowed up or destroyed in connection with the 1956 Soil Bank Program. The

(Continued on page 58)

Another View of Cwt. vs. Bu.

By Pete Stallcop
Executive Secretary
Northwest Country Elevator Assn.

(See Editorial, Page 2)

Much has been written and said recently about the conversion from bushels to hundredweights. Most of the articles have been in favor of the change. This may have convinced the readers of those articles that all segments of the grain trade are in favor of the change. The principal purpose of this article is to point out some of the reasons why the change would work to the disadvantage of many segments of the grain trade. Naturally, if the change would be detrimental to large segments of the trade, it is only logical that those adversely affected would oppose it.

It seems to be the consensus, even among those who oppose the change, that accounting procedures could be simplified and some savings be made in accounting. However, many grain men feel that the reasons for staying on the bushel basis far outweigh the advantages gained in simplifying accounting procedures. In other words, they feel that accounting is merely a record of business done. Business should never be changed just for the convenience of the accountant if the change will result in less profitable business.

A bushel is defined in the dictionary as a dry measure containing 2150.42 cu. in. This is the equivalent of 1.24 cu. ft. Saying it another way, an elevator or other storage space will hold 80.35% as many bushels as there are cubic feet of storage space in the structure.

The U.S. government has fixed the per bushel weight of grain, as follows: Wheat 60 lb., barley 48 lb., oats 32 lb., and rye and corn 56 lb. These grains at these weights will occupy approximately a bushel of space. As test weight varies up or down a bushel of grain may occupy slightly more or less than a measured bushel of space.

Thus it can be seen, even taking into consideration variations caused by test weight, that there is a close correlation between bushels and space requirements, regardless of what grain is being considered. The bushel thus becomes the common denominator for all grains.

There is no such correlation between hundredweight and space. A hundredweight of 60 lb. wheat and a hundredweight of 32 lb. oats weigh the same, but as to space requirements the wheat requires 1⅘ bu. of space, and the oats 3⅛ bu. of space. There is no common denominator under the hundredweight system when space requirements are being considered.

Space is what a country or terminal elevator is selling when a storage ticket is issued on any grain. This has been recognized in establishing storage rates in Minnesota, North and South Dakota and Montana. The rate for storage is uniform in each of these states for a bushel—be it wheat, oats, barley or corn. In three of these states the rate is set by the state legislature; in the other by a state commission. If the system were changed to hundredweight, it might be most difficult to reverse the thinking of these legislators (from cwt. back to bushels or space) when a bill came up concerning storage rates. It takes 1.667

(Continued on page 58)

Crop Production: Annual Summary, 1956

The Crop Reporting Board of the Agricultural Marketing Service makes the following report of crop acreage and production from data furnished by crop correspondents, field statisticians and cooperating state agencies.

	Acres harvested (thousands)			——Production (thousands)——		
Crop and unit—	Average 1945-54	1955	1956	Average 1945-54	1955	1956
Corn, all, bu.	83,260	79,530	75,950	3,084,389	3,229,743	3,451,292
Wheat, all, bu.	67,192	47,285	49,817	1,148,289	934,731	997,207
Winter, bu.	47,810	33,700	35,637	873,690	704,793	734,995
All spring, bu.	19,383	13,585	14,180	274,599	229,938	262,212
Durum, bu.	2,489	1,348	2,379	30,963	19,580	39,607
Other spring, bu.	16,894	12,237	11,801	243,636	210,358	222,605
Oats, bu.	38,912	39,243	33,639	1,327,496	1,503,074	1,152,652
Soybeans for beans, bu.	12,698	18,620	20,926	253,653	373,522	455,869
Barley, bu.	10,443	14,564	12,827	278,166	401,225	372,495
Rye, bu.	1,714	2,049	1,636	21,558	29,055	21,558
Buckwheat, bu.	283	112	110	4,834	1,934	2,032
Flaxseed, bu.	4,190	4,981	5,545	37,959	41,243	48,712
Sorghum grain, bu.	7,460	12,866	9,349	141,334	242,526	205,065
Sorghum forage, tons*	4,952	6,254	6,389	6,313	6,877	4,690
Sorghum silage, tons†	785	1,719	1,438	4,780	9,402	8,691
Cottonseed, tons				5,340	6,943	5,495
Hay, all, tons	74,382	75,360	73,627	103,648	112,737	108,708
Hay, wild, tons	14,282	12,154	11,914	11,849	9,062	8,671
Alfalfa seed, lb.	1,003	1,392	894	114,345	212,390	163,065
Red clover seed, lb.	1,745	1,315	963	93,612	80,682	71,900
Alsike clover seed, lb.	100	54	42	14,209	9,909	9,083
Sweetclover seed, lb.	290	254	214	44,832	48,292	34,940
Lespedeza seed, lb.	783	872	769	152,876	175,365	145,830
Timothy seed, lb.	307	310	184	44,824	48,512	24,500

*Dry weight. †Green weight.

Topics Announced For Meeting on Cottonseed Meal

NEW ORLEANS—Program plans are in readiness for the fourth conference on cottonseed processing as related to nutritive value of the meal, according to officials of the National Cottonseed Products Assn. and the Southern Utilization Research Branch of the Agricultural Research Service, U.S. Department of Agriculture, joint sponsors of the event.

The conference will be held at the Southern Regional Research Laboratory, 1100 Robert E. Lee Boulevard, New Orleans, Jan. 14-16, and is open to cottonseed processors, feed manufacturers, research workers and anyone else interested in the production and utilization of cottonseed meal.

Plans for the conference are being completed by Dr. H. L. Wilcke, Ralston Purina Co., chairman of the NCPA research committee; Dr. C. M. Lyman, Texas A&M College; G. A. Harper, educational service, NCPA; Dr. A. M. Altschul and Dr. V. L. Frampton, Southern Utilization Research Branch.

A feature of the program will be the first report on a cooperative study of commercial cottonseed meals for poultry feeding. Meals from a number of mills, produced by various methods, are being evaluated for chemical properties, and for nutritive value as determined by feeding tests. Reports of their findings are to be given by representatives of state experiment stations, federal research agencies, commercial firms, and others participating in the tests. Progress in other phases of research on the nutritive qualities of cottonseed meals will be reported also, such as fiber content, protein quality and gossypol toxicity as shown by studies on rats, swine and chicks, analytical methods and lysine in cottonseed meals. Discoloration of egg whites and yolks, and the reaction of gossypol with protein and with chemicals, are subjects included for discussion on the effects of cottonseed products on egg quality. Cottonseed meal in the feeding of ruminants will come in for attention, as will also the histopathological effects of gossypol.

The final session of the program is to be given over to evaluation of the research which has been reported, and to recommendations for future investigations. Four special committees, with chairmen, are: "Use of Cottonseed Meal in Chick Rations," Dr. Altschul; "Use of Cottonseed Meal in Swine and Ruminant Rations," Dr. A. A. Hedebrecht, Western Cottonoil Co.; "Relationship of Chemical Measurements to Nutritive Value," Dr. Lyman; and "Effect of this Research on Industry Developments," A. L. Ward, educational service, NCPA.

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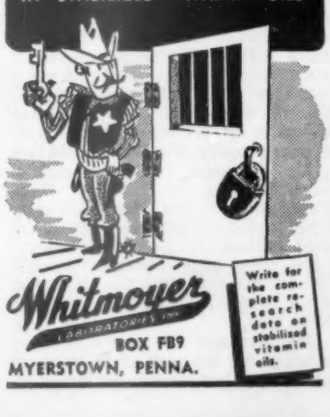

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U.S. Dog Population Past 25 Million Mark, Gaines Official Says

NEW YORK—Indications are that when the last of the gift puppies has been delivered to America's homes this holiday season, the nation's dog population will have passed the 25 million mark, according to Harry Miller, director of the Gaines Dog Research Center, New York.

The figure represents an increase of 2,500,000 dogs since 1953, Mr. Miller stated.

Mr. Miller also reported a definite trend favoring "brand name" or purebred dogs. A lot of people are evidently discovering that it is more important to know what the mature dog will be like rather than what he is as a "cute" puppy, he said. About one third of the dogs in the U.S. today are of pure lineage, though the largest number of owners of purebreds do not take the trouble to register their pets. The breeds currently tops in popularity, to judge from the registration figures, are the Beagle, Boxer, Cocker Spaniel, Dachshund, Chihuahua, German Shepherd, Collie, Poodle, Pekinese and Boston Terrier.

National Alfalfa Earnings Improve

LAMAR, COLO.—An improved earnings picture in the current fiscal year for National Alfalfa Dehydrating & Milling Co. is indicated in an interim report to stockholders for the first six months which ended Oct. 31.

Henry A. Hofmann, company president, noted in the report that "after more than three years of a declining, unprofitable price situation, alfalfa prices are now enjoying a steady rise. This should be reflected not only in our margin of profit, but also in inventory appreciation."

Net sales during the six months ended Oct. 31 amounted to $3,679,560 as compared with $3,204,103 during the corresponding period of 1955.

Operations in the first half of 1956 showed a loss of $49,225, compared with a loss in the first half of 1955 of $320,405. The first half of the year historically is not a profitable period, Mr. Hofmann pointed out. For the year ending April 30, 1957, Mr. Hofmann said management feels operations will be substantially in the black.

The formation of the Grain Elevator Warehouse Co. was cited as a significant step. When planned storage facilities are completed at Toledo, Ohio, and Memphis, Tenn., "National Alfalfa plans to establish processing and milling facilities there, thus effecting savings in freight rates and strengthening its competitive position in the eastern markets," he said.

Small Minority Decides U.S. Support Program for Corn

URBANA, ILL.—It appears that corn growers will have a government program that has been approved by the action of only 10% of the growers eligible to vote in the recent referendum.

This is pointed out by Prof. L. H. Simerl, agricultural economist at the University of Illinois.

There were only about 163,000 votes for acreage allotments—the support program which will be in effect on the next crop—and it is estimated that the number of persons in the commercial corn area eligible to vote was at least 10 times as many as voted for allotments.

The results of the corn referendum are worthy of serious study and comment, Prof. Simerl said in a recent market letter.

"The first fact to be noted," he said, "is that the result of the voting was almost completely mis-reported. Most of the reports from Washington stated that corn producers had approved acreage allotments. The fact is, however, that less than 39% of the farmers who voted approved acreage allotments. More than 61% voted for the base acreage program. Thus, three farmers voted for base acreages for every two who voted for allotments. It is therefore misleading to say either that corn growers approved acreage allotments or that they disapproved base acreages."

Congress, in the soil bank act passed last spring, specified that a two-thirds majority would be required for base acreages to replace acreage allotments, Prof. Simerl explained. The argument some congressmen used to support the two-

(Continued on page 56)

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MIXERS' PELLETED OATS
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USDA Begins New Swine Breeding Research Program

WASHINGTON — A breeding and selection program for swine, similar to that used for increasing yields of hybrid corn, has been launched by scientists of the U.S. Department of Agriculture.

This breeding program is being conducted at USDA's Agricultural Research Center, Beltsville, Md. A similar program is underway at Miles City, Mont., as a cooperative project between USDA's Agricultural Research Service and the Montana Agricultural Experiment Station.

The Beltsville program, expected to continue for 10 to 15 years, is known as "recurrent reciprocal selection for specific combining ability." It is a modification of the "recurrent selection" method now being tried by corn breeders to produce superior hybrid combinations.

Four Steps

In the swine-breeding experiments, recurrent reciprocal selection involves four successive steps: (1) crossing, at definite intervals, two strains of hogs that are known to combine well; (2) testing the cross-progeny for economically important characteristics; (3) retention in the two strains of breeding animals that are proved best by the performance of their test-cross progenies; and (4) propagation of the two strains, using the animals thus selected.

By making reciprocal crosses between animals of the two test strains every other year, and limiting the propagation of these strains in the intervening years to matings between animals proved best by the cross-progeny tests, the scientists hope to increase the amount of hybrid vigor in succeeding generations of cross-bred pigs.

Using this procedure of crossing and selection, all males and females retained to reproduce their strain will consist of animals selected on the basis of the performance of their test-cross progenies produced the previous year. Progenies produced the following year by the selected parents are in turn used for test crossing, which initiates the next cycle of selection.

Advantage Seen

USDA swine breeders at Beltsville see in recurrent reciprocal selection a theoretical advantage over conventional systems of cross-breeding for the production of market hogs. If experimental work under the program bears out this theory, the nation's swine growers will have a new and perhaps more potent genetic method of increasing overall swine productivity. One aim of the project is to develop stock that will aid growers who seek improved hybrid market hogs.

When two breeds or strains of animals produce a desirable cross, they are said to "nick," or combine well. It is this concept of "nicking" that animal scientists have in mind when they speak of selecting for specific combining ability. The proposed breeding program is thus directed toward development of strains which, when crossed with one another, will result in market hogs that exhibit increasing amounts of hybrid vigor, so far as economically important characteristics are concerned.

One of the test strains in use at Beltsville was established from line crosses and the other from breed crosses. The line-cross strain (A) was formed from three inbred lines developed at Beltsville. They are the Landrace, Landrace - Large Black, and Landrace-Poland China lines. The breed-cross strain (B) was started from crosses among outbred stocks of Chester White, Hampshire and Poland China breeds.

Two "control" strains, one derived from strain A and the other from strain B, are being maintained as yardsticks for testing the effectiveness of the recurrent reciprocal selection program.

Since recurrent reciprocal selection is basically a program of selection for hybrid vigor, or nicking, the testing for performance begins with the farrowing of the cross-bred pigs. Besides taking into account the prolificacy and mothering and nursing ability of the dams, criteria for evaluating the test-cross progenies also include: Rate of growth, efficiency of feed utilization from weaning to a final live weight of about 225 lb., and several carcass characteristics.

The program is to continue as long as any improvement is observed in the performance of the test-cross progenies. The USDA scientists emphasize that they do not expect any sensational improvement of the test strains in the immediate future, but they do believe that this method of breeding and selection offers opportunity for surpassing the results obtainable by conventional hog breeding.

1957 BLACKSTRAP

WASHINGTON — The production of 1957 blackstrap has begun in Cuba as Central Rio Cauto commenced grinding operations. The National Cattlemens Assn. in Cuba has requested that about 10 million gallons of blackstrap be set aside for local use in the livestock feeding industry, according to the U.S. Department of Agriculture. During 1956 about six million gallons were assigned for this purpose.

T. M. Scruggs | L. E. Pounders | Ray P. Perry | F. C. Chenault

BEMIS BRO. RETIRING TWO—Bemis Bro. Bag Co. has announced that two of its veteran executives will be retired soon. They are T. M. Scruggs, manager of the firm's Visinet mill at St. Louis, and F. C. Chenault, manager of the Memphis plant and sales division. Mr. Scruggs will retire Dec. 31 and Mr. Chenault on Jan. 30. Mr. Scruggs has been in charge of the Visinet mill, which produces open-mesh woven paper fabrics, since it was opened in 1929. He joined Bemis in 1916 at St. Louis and was superintendent at the Seattle plant from 1920 until given his present duties. Mr. Scruggs will be succeeded by Ray P. Perry, a Bemis employee since 1946, according to an announcement by A. H. Clarke, vice president in charge of production. Mr. Chenault has been with Bemis more than 40 years, having joined as a salesman at Memphis in 1916. He was made plant superintendent in 1918, sales manager in 1932 and manager in 1947. Mr. Chenault will be succeeded by L. E. Pounders, now assistant manager at Memphis. Mr. Pounders has been with Bemis since 1936. Announcement of the change was made jointly by Judson Bemis, executive vice president, and H. J. Wehrenbrecht, director of southern operations.

Petersburg, Va., Feed Firm President Dies

PETERSBURG, VA. — James S. Ritchie, 68, Petersburg, Va., businessman and Chesterfield County farmer, died recently. He had been connected with the feed and seed business for 43 years and was president of J. S. Ritchie & Sons, Inc., feed and seed corporation, and the Ritchie Hardware & Implement Co., Inc.

Mr. Ritchie is survived by his widow, four daughters and two sons, William G. Ritchie and J. S. Ritchie, Jr.

Columbus Feed Club Will Meet Jan. 4

COLUMBUS—The Columbus Feed Club will hold a "sports night" meeting Jan. 4 at the Fort Hayes Hotel. Harold M. Cooper, general manager of the Columbus baseball team, will discuss his team's operations.

A social hour will begin at 6 p.m. and the dinner will be served at 7:30 p.m.

ADM Personnel Get New Assignments

MINNEAPOLIS — The promotion of Robert S. White, Decatur, Ill., to production manager of the soybean division of the Archer-Daniels-Midland Co., Minneapolis, was announced by A. C. Hoehne, vice president and manager of ADM's soybean division.

Mr. White has been manager of the company's Decatur plant for the past 17 years. He will be responsible for planning, coordination and direction of production of the soybean division and operation of the Decatur and Mankato, Minn., plants. He will maintain his headquarters at Decatur.

The Decatur plant produces soybean oil and meal, soybean flour and vinyl plasticizers. The Mankato plant produces soybean products and formula feeds.

Alan D. Colby, Minneapolis, who has served as staff production coordinator for the firm's soybean plants the past three years, will succeed Edward W. Schmidt, Jr., as plant manager at Mankato. Mr. Schmidt is being transferred to the engineering department at Minneapolis as a process engineer.

The new assignments are effective Jan. 1.

Mr. White joined the company as a chemist at Buffalo in 1932 after graduating from the University of Buffalo and earning a master's degree at the University of Michigan. Later he participated in the modernization and expansion of the firm's Edgewater, N.J., plant and was in charge of the fatty acids and splitting operations there until 1939, when he was transferred to Decatur as plant manager.

Mr. Colby, a University of Minnesota graduate in chemical engineering, joined the firm in 1939. He has served as a control chemist and plant engineer in Chicago and superintendent of the drying plant in Minneapolis.

Mr. Schmidt, manager of the Mankato soybean and feed plants since 1954, is a mechanical engineering graduate of Iowa State College. After joining the firm in 1948 as a foreman in the Minneapolis linseed oil mill, he was named superintendent of the Mankato solvent extraction plant when it went into operation in 1950 and superintendent of the feed plant in 1951.

To Meet on Jan. 18

CHICAGO — The next meeting of the Chicago Feed Club will be Jan. 18 at the Congress Hotel. It previously was announced the date would be Jan. 17. The annual business meeting will be a part of the program, which will include the installation of new officers and a report of the various committees.

Benjamin Schulein Nominated to Head St. Louis Exchange

ST. LOUIS — Benjamin M. Schulein, president, Neumond, Inc., has been nominated for the presidency of the Merchants Exchange of St. Louis, according to an announcement made by R. Hal Dean, chairman of the nominating committee. Mr. Schulein has been a member of the Merchants Exchange since 1935 and is currently its first vice president.

Born in Kansas City, Mo., Mr. Schulein moved with his family to St. Louis shortly thereafter, and he has lived practically his entire lifetime in St. Louis. He is a graduate of Old Central High School and holds an LLB degree from St. Louis University. He was a second lieutenant in the air force in World War I. After serving in numerous sales manager capacities in different industries in the St. Louis area, Mr. Schulein was instrumental in forming a partnership known as the Neumond Co. in 1933 to deal in grain and by-product feeds. This partnership was succeeded in 1953 by Neumond, Inc. Mr. Schulein has headed both companies since their formation. He was one of the founders of the Columbian Club, having served two years as its president, and is a member of Westwood Country Club.

Nominations for other posts were announced as follows: first vice president of the exchange, C. Robert Pommer, first vice president, Corneli Seed Co.; second vice president, Kurt Horn, assistant vice president, Continental Grain Co.; directors, K. E. Morrison, Dixie Mills Co., A. E. Schneider, Cargill, Inc., and G. L. Sparks, Sparks-Waters-Farnen, Inc.

The incumbent president of the exchange is Harold C. Banks, Bartlett & Co. The election will be held on Jan. 16 in the trading hall of the exchange.

Raymond Rust Resigns Quisenberry Position

KANSAS CITY — Raymond Rust has resigned as vice president and sales manager of Quisenberry Mills, Inc., Kansas City. Mr. Rust also has been manager of the Royal Feeders Supply Co., a Quisenberry affiliate. The resignation becomes effective Jan. 1.

Well known in the feed industry of the Southwest, Mr. Rust joined the Quisenberry firm in 1946 as sales manager and previously had been associated with the Staley Milling Co. in Kansas City in a similar capacity. He joined the Staley company in 1936.

Mr. Rust has not announced his plans for the future.

Quisenberry Makes Two Appointments

KANSAS CITY—Two changes in executive personnel of Quisenberry Mills, Inc., Kansas City, were announced by Russell May, president of the feed manufacturing firm.

Robert L. Vaughan has been appointed sales manager of Quisenberry Mills, succeeding Raymond Rust who has resigned. Billie L. Hartman has been appointed plant manager of Royal Feeders Supply Co., an affiliate of the Quisenberry company. These duties also were formerly under Mr. Rust's direction.

Mr. Vaughan has been district sales manager for the Peter Hand Foundation in the Missouri-Kansas area and has been engaged in the feed business in the Southwest for some years, being associated formerly with Nutrena Mills, Inc., Pay Way Feed Mills, Inc., and Gooch Feed Mills Co.

Mr. Hartman has been with Quisenberry for the past eight years in office and plant scheduling duties.

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What's New in Feeding
Putting Research to Work

Relative Value of Carotene from Alfalfa and Vitamin A from a Dry Carrier Fed at Medium to High Levels to Holstein Calves

● J. E. Rosseau, H. D. Eaton, R. Teichman, C. F. Helmboldt, E. L. Jungherr and E. L. Bacon, Animal Industries and Animal Diseases Departments, Storrs (Conn.) Agricultural Experiment Station, and Geoffrey Beall, Statistics Department, University of Connecticut; Journal of Dairy Science, Vol. 39, No. 11, pages 1565-1573 (November, 1956).

Forty-eight male Holstein calves were used in an attempt to determine the relative quantitative value of carotene from alfalfa and of vitamin A from a dry carrier. Both products were fed at medium to high levels, three levels of each being fed. Blood and liver concentrations of vitamin A and vitamin A depletion times were determined.

An increase in the carotene intake from artificially dehydrated alfalfa resulted in a proportionate increase in liver carotenoids, vitamin A concentration in the blood and vitamin A depletion time. Plasma vitamin A increased at diminishing rates and liver vitamin A and vitamin A depletion time at constant rates with increased intake of vitamin A from the dry carrier.

Based on the relationships of plasma and liver vitamin A concentrations and vitamin A depletion time with carotene or vitamin A intake, the results of this experiment showed that when fed at the recommended intake level, carotene was equivalent to approximately ⅓ to 1/7 as much as vitamin A. At the moderate or medium level, carotene was equivalent to 1/10 to 1/13 as much as vitamin A. Carotene fed at a high level was equivalent to 1/20 to 1/24 as much as vitamin A.

COMMENTS:

The recommended intake levels of carotene used in this test were based on the National Research Council's Recommended Nutrient Allowance for Dairy Cattle in which the allowance for calves is set at 60 micrograms of carotene per pound of live weight per day. The "moderate or medium" level of carotene intake was 180 micrograms and the "high" level was 540 micrograms of carotene per pound of live weight per day.

The amounts of vitamin A or provitamin A (carotene) required to maintain satisfactory growth and/or prevent the occurrence of night blindness and other symptoms of vitamin A deficiency have served as the basis for establishing the requirements of calves for these two necessary constituents of the diet. However, this basis does not permit the storage of appreciable amounts of vitamin A in the calf's body. It would be most desirable to feed vitamin A and/or carotene at high enough levels to allow for a certain amount of storage of vitamin A in the calf's body to prevent deficiencies due to lowered intake during later periods in the calf's life. Poor absorption of vitamin A and/or carotene from the diet may also be due to scours and thus result in vitamin A deficiency in animals being fed a ration adequately fortified with vitamin A and its precursor, carotene.

The normal loss of carotene and vitamin A from roughages during curing and storage requires that larger amounts of these vitamins be fed during certain seasons than at others. Likewise, the drying up of pasture grasses under normal conditions of seasonal maturity with the subsequent loss of carotene must be taken into consideration. This condition is, of course, severely exaggerated under drouth conditions.

Equivalent values for carotene as compared with vitamin A, such as the authors have calculated on the basis of the results of their work, can have considerable merit as a guide in determining the interchangeability of the use of carotene and vitamin A from other sources in a ration. This is especially true in the case of younger animals where the intake of roughage (even high quality roughage) is limited by the lack of development of the rumen. Consequently, it is definitely worthwhile to know that animals such as this can readily secure their vitamin A requirements from another, more highly efficient source. These values also give us a comparative insight as to the indicated "loss" of vitamin A "value" in the conversion of carotene to vitamin A within the body.

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Chick Production Again Up From Year Earlier

WASHINGTON—This isn't exactly new to anyone associated with the broiler business, but for the record it may be reported that hatchery production of chicks in November showed another gain over a year earlier.

The latest U.S. Department of Agriculture hatchery report shows that commercial hatcheries produced 120.6 million chicks during November—8% above a year ago.

Broiler chick production, which accounted for 87% of the chicks hatched during November, totaled nearly 105 million, representing an increase of 9% over a year earlier. The number of broiler chicks hatched during the first 11 months of 1956 totaled more than 1.3 billion, increasing 20% over a year ago.

The number of chicks produced other than for broiler production was 15,723,000 during November, an increase of 1% from a year ago. This, of course, is the seasonally low time for hatching flock replacement chicks.

A larger hatch of broiler chicks during December than a year ago also was in prospect, the USDA report indicated. The number of broiler chick eggs in incubators on Dec. 1 was 7% larger than a year earlier.

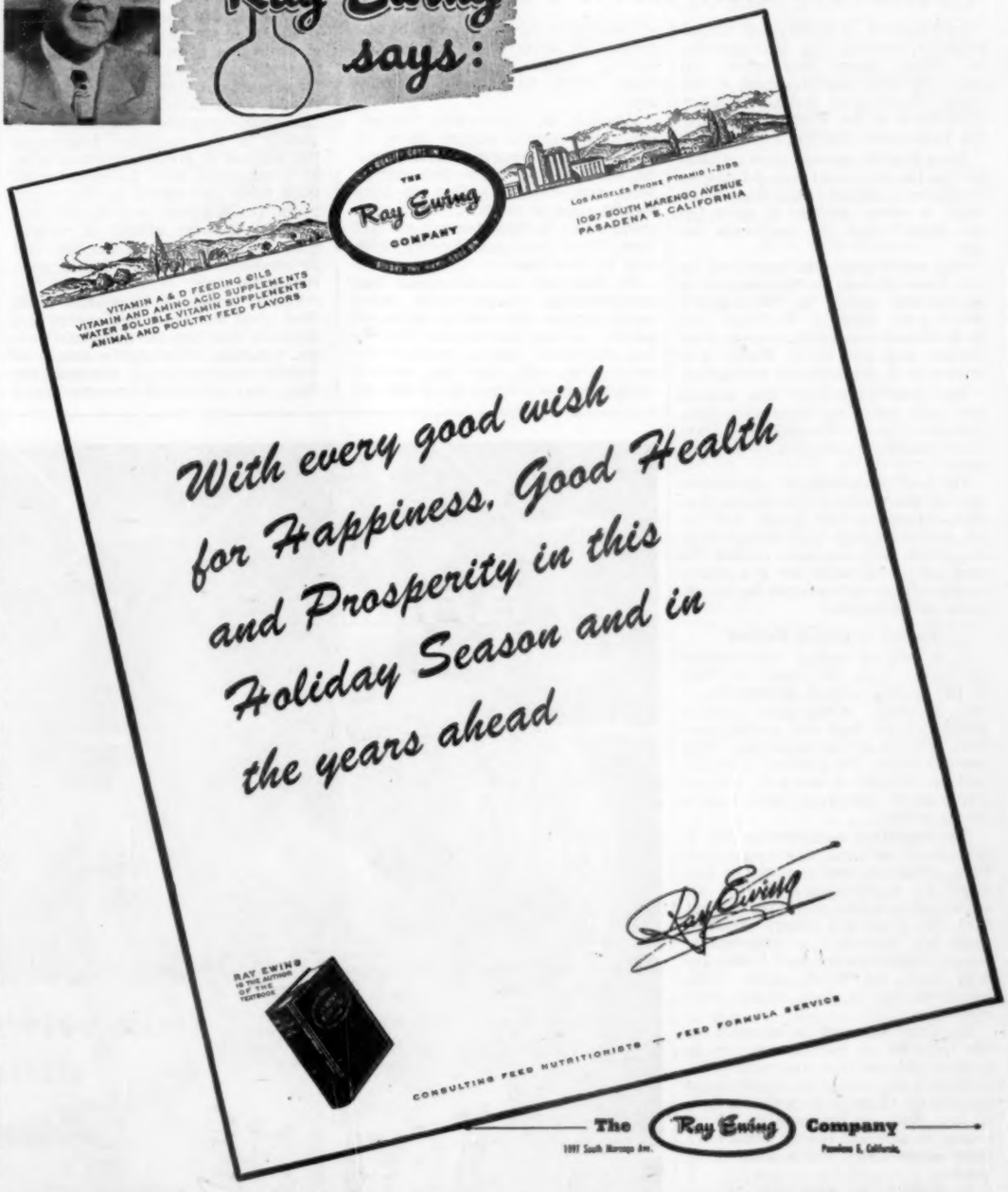
However, a smaller hatch of non-broiler chicks was indicated. The number of non-broiler eggs in incubators on Dec. 1 was 12% less than on Dec. 1 last year.

Broiler chick placements are not now running as far ahead of a year ago as they were for some time, but, in spite of the low broiler prices, placements have continued ahead of a year earlier in recent weeks.

R. N. Kivett Joins Gilbert Jackson Co.

KANSAS CITY—Robert N. Kivett has been named manager of a newly created feed division of the Gilbert Jackson Co., Kansas City brokerage firm, Gilbert Jackson, president of the company announced this week. Mr. Kivett began his new duties Dec. 17. He will trade in all feed ingredients, including millfeeds and protein feeds. Mr. Kivett has been associated with the Eugene Selders Co., for the past several years.

Ray Ewing says: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Washington Feed Men Hear Talks on Nutrition Findings

PUYALLUP, WASH. — A varied program covering new developments in poultry, swine, beef cattle and dairy nutrition was presented at the recent Washington Animal Industry Conference at the Western Washington Experiment Station, Puyallup.

More than 60 persons were on hand for the two-day event Dec. 6-7 despite treacherous highway conditions at the time. A liberal amount of snow fell the night before the conference began.

The conference was sponsored by the State College of Washington in cooperation with the Washington State Feed Assn. J. P. Miller and G. E. Bearse headed the college committee, and Dr. L. C. Pelton was chairman of the industry committee.

The 1956 conference was termed the "best ever" by those attending. Speakers were Washington State staff members and industry authorities.

Dr. D. F. Allmendinger, superintendent of the Western Washington Station, welcomed the group and expressed willingness of all college units to provide help whenever needed. He emphasized the need for a constant supply of new information on all aspects of agriculture.

Energy in Laying Rations

In a talk on energy relationships for laying hens, Dr. Lawrence Berg of the poultry science department at the Western Washington station noted that all feed and poultry men have become energy-conscious. With inedible tallow being added to broiler rations, he said, it was only natural that use of tallow in layer rations would follow.

The important consideration now is pounds of feed per dozen eggs. Dr. Berg indicated that poultrymen lose about 6% in efficiency with each 100 calorie drop in energy. He pointed out that the price and energy relationships are important in determining which ingredients are used. Lower energy diets, he noted, create litter problems due to their higher fiber content.

Dr. Berg reported on research on the question of whether winters in western Washington are sufficiently cold so as to increase the requirement for energy in order to maintain rate of lay. Data on the problem of response to different energy levels have been accumulated for a number of years.

It appears, he said, that no improvement in rate of lay can be expected in western Washington by feeding higher energy diets than those which have been generally used.

However, the results show that energy level has a definite effect on feed efficiency in egg production. Also, he said, results show that energy level may have an effect on body weight gains of the birds. In no case, though, did the birds become so "fat" that there was interference with rate of production.

Dr. Berg said his data indicate that metabolizable energy values more nearly express the relative values of grains for egg production than do the productive energy values. This means, he said, that the relative energy values of the lower energy ingredients such as barley, oats and millrun are 7 to 10% higher than indicated by productive energy values determined with the chick.

Dairy Rations

Dr. F. R. Murdock of the Western Washington station discussed the use of grain and by-product feeds to replace roughage in dairy cattle rations. He pointed out that a short supply of regular feedstuffs, which occurs occasionally, requires substitutes. The quality of the roughage determines the amount of grain to produce milk at a maximum rate. Dairymen with good cows can afford to feed more grain, Dr. Murdock said. He presented data showing effects of various grain levels on milk production, and he emphasized the importance of good record keeping.

Cereal grains or by-product feeds that yield the most net energy per dollar of cost are the best substitute for roughage. Palatability should be considered in selecting concentrates. Rye, peas and dried brewers grains are lacking in palatability and should not constitute a large part of the concentrate ration, Dr. Murdock said. Wheat is lacking in bulkiness and should not constitute over 50% of the ration. Molasses should be limited to about 3 lb. per 1,000 lb. of body weight for dairy cows. When feeding high grain and low roughage rations for any period of time, vitamin A and D supplementation may be required.

Pig Starters

Discussing pig pre-starters and starters, Jack Plonsky, Ray Ewing Co., Pasadena, noted some of the changes which have taken place in swine feeding and said that programs of early weaning and feeding of pre-starters and starters to young pigs are working out well in the Corn Belt area when adequate housing and equipment and good management are employed. He mentioned that requirements for a pig pre-starter are exacting.

In connection with baby pig feeding, he reviewed work on enzyme de-

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ficiencies in baby pigs and told how the feeding of pepsin to baby pigs has been suggested by Iowa State College. Work also has been done at various stations on other feed additives. As for starters, to be fed from five weeks to 50-lb. weights, they must be palatable, high in available energy and adequately fortified.

"Much work remains to be done before more practical rations for early weaned pigs can be used generally at farm levels," Mr. Plonsky said. "Some feed manufacturers have solved part of the problem, and early weaning of pigs and multiple farrowing will increase in our hog production economy."

Turkey Feeding

Studies on concentrate feeding of turkeys were presented by Dr. James McGinnis of the Washington State poultry science department. It has been observed in the past, he said, that a marked over-consumption of protein takes place. This is due to the inability of the turkey to properly select a balanced diet when offered a high-protein concentrate and a grain free choice, or to a marked preference for feed in mash form as compared with grain. To study factors affecting selection of feeds, a series of experiments was conducted with turkeys in which different mashes and grains were fed during the period after eight weeks of age.

Summarizing his findings, Dr. McGinnis said:

1. The available energy content of the developing mash has an influence on free-choice consumption of whole grain. High-energy developers tend to reduce grain consumption and low-energy developers tend to increase grain selection.

2. On the same developers, either high or low energy, turkeys consume much greater quantities of corn than of barley.

3. The protein level in the developer mash, as well as the available energy content, has a marked influence on free-choice consumption of corn. A higher level of protein tends to increase corn consumption.

4. When turkeys were fed 36% protein developer and corn free choice, an excessive amount of protein was consumed.

5. When consumption of a 36% protein developer was restricted and corn fed free choice, the same feed efficiency and growth rate were obtained as with a 20% protein developer and corn fed free choice.

Respiratory Diseases

Respiratory diseases and related problems are of great concern to most poultrymen, and many times they look to their feed servicemen for help. Dr. C. M. Hamilton, department of veterinary science, Western Washington station, pointed out that respiratory diseases in poultry are complex and complicated by more than one causative agent. He explained various aspects of the problem and he expressed hopes that these different aspects might be better understood in order to get at the cause of each one. Often one prevalent disease complicates the situation by making it possible for another one to express itself.

The pelleting research work at Washington State College was reported by Dr. Leo S. Jensen of the Washington State poultry department, Pullman. The research, he said, indicates that a nutritional change is brought about by pelleting. Apparently, he said, the improved performance from pellets is caused by a nutritional or chemical effect from pelleting as well as a physical or density effect. The text of Dr. Jensen's report appeared in the Dec. 8 issue of Feedstuffs.

Beef Cattle Feeding

Dr. I. A. Dyer, department of animal husbandry, Washington State College, told of current research on beef cattle feeding. One of the subjects covered was work on fats in beef feeds. Work at many stations has demonstrated that fat improves rations. Results at Washington have not been consistent, and Dr. Dyer said it appears that more research should be done on the utilization of fat by ruminants. The correct levels, feed with which to combine the fat, type of fat and perhaps age of the animals should be considered in evaluating this source of energy, Dr. Dyer said.

He also discussed urea in feeds, noting that it has proved to be a safe and valuable feed ingredient when fed frequently and in amounts to balance the protein requirements.

Problems dealing with microflora of the rumen of the cow are perhaps receiving more attention now than any other phase of beef cattle research, and Dr. Dyer discussed various findings in this field.

Use of Hormones

Dr. W. C. Sherman, Chas. Pfizer & Co., Inc., Terre Haute, Ind., reported on the use and methods of application of stilbestrol in beef cattle and poultry nutrition. He pointed out that stilbestrol pellets have been in wide use for specialized purposes in poultry for some 10 years. More recent developments are stilbestrol in paste for injection as well as dienestrol diacetate as a feed supplement. He said it is essential that the grower obtain a premium for quality birds in order to pay the cost of estrogen treatment.

Dr. Sherman noted that there has been widespread commercial application of use of stilbestrol for feedlot cattle. More recently there has been

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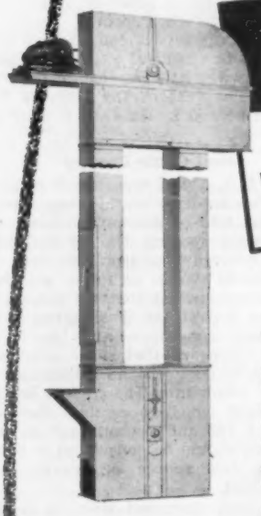

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commercial application of stilbestrol implants and progesterone-estradiol implants. The lower levels of stilbestrol implantation (36 to 48 mg.), he said, produce satisfactory improvement in performance with little or no tendency for downgrading.

He indicated that there was additional improvement in performance by feeding Terramycin along with stilbestrol feeding or implants. In the absence of stilbestrol, he continued, comparable improvements have been obtained from feeding the antibiotic.

Various trials have shown that adequate protein is necessary to obtain maximum growth response to estrogenic substances, Dr. Sherman said. Satisfactory responses to stilbestrol and Terramycin have been obtained on high and low roughage rations with adequate protein, but with reduced protein levels the responses were lost.

Current research indicates the possibility of future extension of use of estrogenic substances to cattle under 600 lb. and to use in cattle on pasture or range.

Antibiotics for Layers

The effect of antibiotics on egg production, of widespread interest at the present time, was the subject of a talk by Dr. E. L. R. Stokstad of American Cyanamid Co., Pearl River, N.Y.

Early field observations indicated that high levels of Aureomycin for low-producing hens would increase production, and subsequent controlled experiments have borne this out, Dr. Stokstad said. He went on to report that addition of the antibiotic appeared to give a response when fed under both high and low temperature conditions. Another experiment showed that although increased temperatures lowered the whole scale of production, approximately equal increases were produced by Aureomycin in each case.

Experiments have been made to determine whether low-producing hens will give a larger response to Aureomycin than high-producing birds when the disease level is held constant. Dr. Stokstad mentioned one experiment in which the antibiotic increased production of the low but not of the high-producing hens. In another test, approximately equal increases were obtained. The level of production of the high-producing birds was less than the high-producing birds used in the first experiment.

Other work indicated that addition of Aureomycin to the diet increased feed efficiency on both high and low energy diets, but more on the high energy ration. The antibiotic had little or no effect in the early period and the differences were more marked during the last two months of production.

Dr. Stokstad said that an experiment in conjunction with the Storrs Egg Laying Contest by Singsen showed that Aureomycin can increase production in high producing strains of birds and under ideal management conditions.

Turkey Breeder Diets

Dr. Jensen, in a second talk, said that a great deal of progress has been made recently in determination of nutrient requirements for turkey breeders, but more progress is needed. He discussed findings on various nutrients and went into some detail on vitamin E. Studies show that adding this vitamin to turkey breeder rations can be of tremendous value in improving hatchability. Such things as unsaturated fat and certain minerals accelerate destruction of vitamin E, he said, and therefore increase the requirement for supplemental vitamin E. Antioxidants in the feeds retard destruction of natural vitamin E. Dr. Jensen noted a great deal of variation among individual hens in vitamin E requirements for maximum hatchability, and large variations can be expected among strains of turkeys. With a low level of unsaturated fat in the ration, Dr. Jensen suggested that 5 to 10 I.U. of vitamin E per pound plus 4 oz. of NHT or another suitable antioxidant will satisfy the E requirement under most conditions. If a high level of fish meal or feeding oil is used, a higher level of E should be added.

Dr. Jensen went on to discuss protein requirements, mentioning that the NRC lists 15% for breeding turkeys. Some have recommended higher levels. Actually the requirement may be much lower than even the 15% level. More work on this is needed.

It appears that rations varying widely in energy content can be

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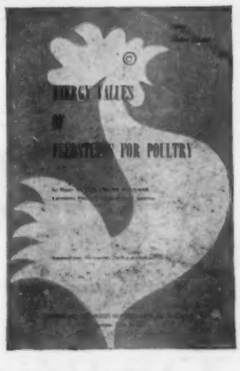

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used with equal success for turkey breeders, so the decision on the type of ration will probably hinge on the cost of feed necessary to produce a unit of eggs.

Milk Fever

New developments in milk fever and ketosis prevention in dairy cows were discussed by Dr. T. H. Blosser of Washington State.

Ohio workers have shown how feeding massive doses of vitamin D at a certain period has prevented milk fever. California workers have reported success by feeding diets low in calcium and high in phosphorus.

Promising prevention for ketosis, Dr. Blosser said, lies in use of sodium propionate.

Question and answer panels were conducted by Gordon E. Bearse, Western Washington Experiment Station, following the presentations each day. Questions were submitted and Mr. Bearse directed them to the panel member dealing with that subject.

Several of these questions indicated the difference of opinion between the speaker and the farmer who had discussed his problem with the feed serviceman. Feed servicemen asked if certain recommendations obtained or heard from poultrymen and livestock men were true and valid. Many times, these were rules of thumb or more or less unfounded recommendations without any scientific proof. This section of the program proved to be a very interesting one and had considerable participation both on the part of the speakers and the audience.

One of the highlights of the conference was the banquet held the evening of Dec. 6 with Walter Krumbholz, Leo Cook Co., Seattle, as the master of ceremonies. The main speaker was Dr. A. O. Shaw, department of dairy science, Washington State College, Pullman, who has just returned from a two-year tour of duty with the Washington State College program in Pakistan. The topic of Dr. Shaw's speech was, "My Experience in Pakistan," supported by a number of colored slides.

Oilseed By-Products Tested in Cattle Feed

BLACKSBURG, VA.—Certain by-products (now commonly wasted) of the cottonseed and soybean oil processing industries seem to have some value as additives to rations for fattening beef cattle, according to scientists at the Front Royal beef cattle research station of Virginia Polytechnic Institute.

The scientists conducted a series of three feeding trials with 82 steers to determine the value in fattening rations of crude phospholipid by-products of cottonseed and soybean processing.

In all trials the calves received the by-product materials gained faster than those which did not. Increased gains ranged from 1.7% to 17.7% in the various trials, when the animals were fed rations with the additive. The average increase from using the additive was 5.5%.

There were no apparent harmful effects on the animals, the scientists said.

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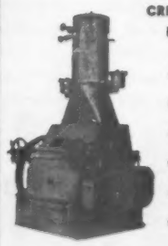

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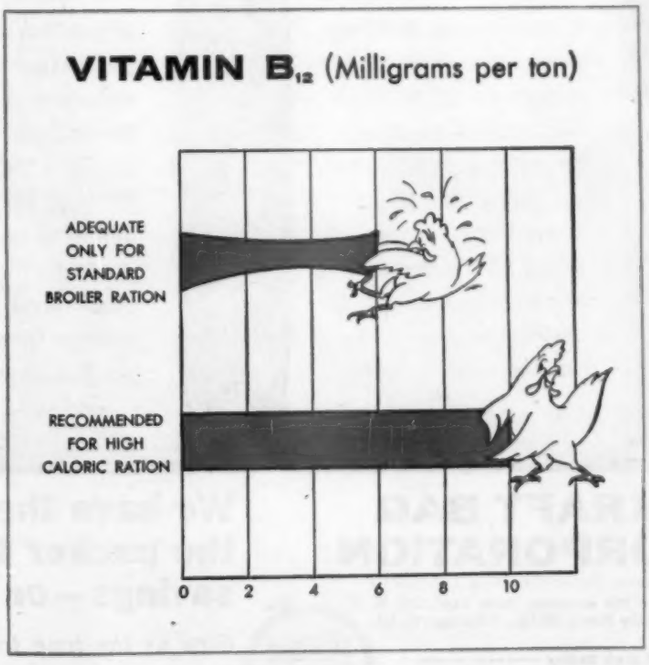

Research and Production for Better Poultry and Animal Nutrition

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How to Meet a Price Drop

EDITOR'S NOTE: Making adjustments in operations to meet changing economic conditions is as important in farming as in any other business, but just how to determine what changes to make can be a problem. Feed men will find this example of raising income on a typical dairy-hog farm in the face of price declines an interesting story and one worth calling to the attention of customers. It is reprinted from the current issue of Agricultural Research, a U.S. Department of Agriculture publication.

When dairy or hog prices go down, so does a dairy-hog farmer's income —that is, unless he can adopt more efficient management practices.

USDA researchers have found ways of even raising returns of a typical dairy-hog farm despite price cuts up to 20%. The key—familiar to county agents—is better management of land, equipment and labor.

A dairy-hog farmer may find the solution in better understanding of his farm resources, alternatives for using them in other lines of production and the economic outlook.

A 160-acre dairy-hog farm typical of operations in northeast Iowa was used as a basis for devising such alternatives. They were worked out by agricultural economists Frank Ozarem anld R. V. Baumann, the Agricultural Research Service, and E. O. Heady of the Iowa experiment station. The results are applicable to thousands of dairy-hog farms.

This typical farm had 14 cows with annual dairy-product sales of $3,080. Other income included $5,054 from 126 hogs, $797 from poultry and $350 from corn. The farm's net income amounted to $4,585.

First Alternative

Under the first alternative devised by economists for use in case of a 20% drop in milk prices, the dependence on dairy products as a source of income was reduced to $2,232 with 12 cows. The dependence on hogs was increased to $6,357 with 153 hogs. Poultry totaled $1,057, corn $1,016. Crop yields were increased by more intensive grain production—corn - corn - oats - meadow - rotation terraces to control erosion, and use of fertilizer. The farm's net income was $4,996, or $411 more than net income before the drop in dairy prices.

Profits would be even greater if farmers also concentrated on improving the efficiency of their dairy enterprises. Better breeding, feeding and sanitation, as well as better use of labor, could boost net returns.

In addition to increasing present profits, farmers would be preparing for an expected upswing in the demand for dairy products as the population of the U.S. grows.

If a 20% decline occurred in hog prices rather than in milk prices, this dairy-hog operator would have another choice. He could sell corn—which sometimes provides a greater return—instead of feeding hogs. (Farmers who use eight or more bushels of corn to produce 100 lb. of pork would be better off if they stopped raising hogs and used their resources in other enterprises.) The same cropping system suggested under the first plan could be used.

Efficient Feeding

Still another course would be open to the dairy-hog farmer. He could investigate the possibility of improving the efficiency of his hog production to save feed and thereby increase his sales of corn. The farm income from this plan exceeded the income obtained from the typical plan despite 20% lower hog prices.

Farmers who are already efficient in hog production (saving an average of seven or more pigs per litter and producing 100 lb. of pork with six or fewer bushels of corn) would suffer a loss in income from lower hog prices. But such operators would not find themselves in as severe a price squeeze as the less efficient farmers.

A dairy-hog operator should compare the prices of feed and other resources with prices he would get for milk and pork. Then he should select the most efficient farming plan considering the relative level of prices—not the absolute level.

The county agent, with planning resources at his command, can be a big help to farmers who must adjust to a changing market situation.

Jan. 24-26 Meeting

RICHMOND, VA.—The board of directors of the National Broiler Council will hold its winter meeting Jan. 24-26 at Ponte Vedra, Fla., announces Jesse Jewell, president of the council. The meeting will precede the annual meeting of the Southeastern Poultry & Egg Assn. in Atlanta.

Among items to be considered will be a spring campaign.

The council board is made up of directors from all the major broiler producing areas in the nation.

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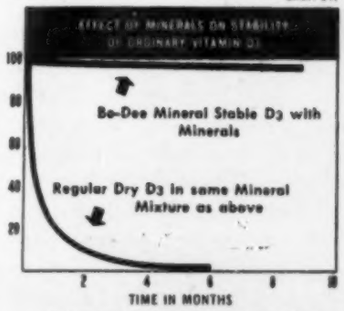
PERCENT VITAMIN D — Chart #1.



Above chart shows rapid and complete deterioration of Vitamin D3 in a mixture of customarily used feed minerals. 9 parts minerals to 1 part Vitamin D in cereal carrier.

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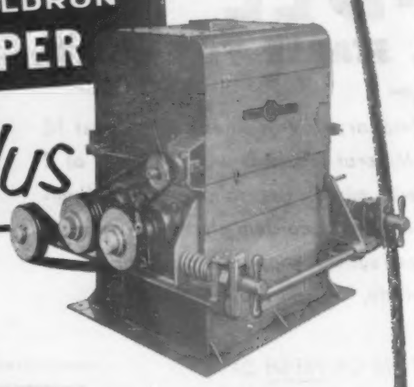

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FE/471

Topics Announced For 12th Kansas Feed Conference

MANHATTAN, KANSAS — Visiting speakers from Cornell University, Oklahoma A&M College and the University of Arkansas, as well as several representatives of the feed industry, will appear on the program of the 12th Formula Feed Conference at Kansas State College. The event is scheduled for Jan. 6-8.

Dr. J. Thomas Reid, animal husbandry department, Cornell, will give two talks: "Influence of Level of Feeding During Early Life on the Reproduction, Production and Longevity of Dairy Cattle" and "The Nutritional Effects of Varying Concentrate-Roughage Ratios in Relation to Feed Input-Milk Output by Dairy Cows."

"The Use of Amino Acids in Practical Feed Formulas" and "Hatchability Factors" will be topics discussed by Dr. E. L. Stephenson, animal husbandry department, University of Arkansas.

Dr. L. S. Pope, animal husbandry department, Oklahoma A&M, will speak on "New Horizons in Beef Production."

Other outside speakers will be Dr. Neal F. Morehouse, Dr. Salsbury's Laboratories, Charles City, Iowa, on the "Use of Medicated Feeds," and Dr. Lawrence E. Carpenter, executive director, Distillers Feed Research Council, Cincinnati, on "Unidentified Factors in the Nutrition of Swine."

A panel discussion on the effect that the large-scale, combined operation of raising, feeding and processing poultry will have on the poultry and feed industries, moderated by Maurice Johnson, Staley Milling Co., Kansas City, will open the conference at 9:30 a.m. Jan. 7. Panel members will be John Randolph, Corn Belt Hatchery, Hope, Ark.; Jack Grubb, Midwest Mills, Abilene, Kansas; Harold McCurdy, Great Bend (Kansas) Poultry Co., and Gordon Johnson, Gordon Johnson Co., Kansas City.

Kansas State College speakers will include the following: Dr. Berl A. Koch, animal husbandry department, "Effect of Storage on the Proteins and Vitamins of Grains"; Dr. W. H. Hastings, flour and feed milling industries department, "Specialty Formula Feeds—Pet Food, Rabbits, Game Birds"; Dr. George M. Ward, dairy husbandry department, "Influence of Soil Fertility on the Nutritive Value of Feeds"; Dr. D. B. Parrish, chemistry department, "Vitamin A in Formula Feeds"; Dr. Dean S. Folse, school of veterinary medicine, "What About the Parasite Problem in Kansas", and Thomas B. Avery, poultry husbandry department, "Poultry Management."

Oscar Straube, Pay Way Feed Mills, Inc., Kansas City, and board chairman of the American Feed Manufacturers Assn., will speak on "Meeting Today's Problems."

A feature of the conference will be a radio program originating from the college station KSAC at 12:30 Jan. 8. C. H. Blanke, Blair Milling & Elevator Co., Inc., Atchison, will chairman the discussion. Participants will be Elmer Winterscheidt, Winterscheidt Milling Co., Seneca; Tom L. Buckman, Buckman Seed & Feed Co., Paola; Jack Grubb, Midwest Mills, Abilene; O. Burr Ross, Gooch Feed Mill Division, the Western Star Milling Co., Salina, and John McKee, Key Milling Co., Clay Center.

A dinner is scheduled for the evening of Jan. 7. Following entertainment, questions will be answered. Early arrivals on the evening of Jan. 6 will register at the Wareham Hotel prior to a bar-b-q chicken dinner. Adjournment is planned for 3 p.m. Jan. 8.

New Surfactant for Possible Use in Feed Announced

BERKELEY HEIGHTS, N.J.—The Berkeley Chemical Corp. has signed a licensing agreement with the Sugar Research Foundation for the purpose of operating under its patent application on sucrose esters, a new class of surfactants, according to Robert J. Milano, Berkeley president.

Among the possible uses of sugar esters, the company says, is inclusion of the product in feeds.

The sugar chemistry project will be added to the bulk pharmaceutical, intermediate and custom synthesis plant and research program now being carried on at Berkeley Heights.

The new research and process development program will extend over the next three or four months, after which production of pilot plant quantities will be started. Limited pilot runs were made at the Berkeley plant a year ago in connection with the initial process development work conducted by Foster D. Snell, Inc., for Sugar Research Foundation.

This new class of surfactants, Berkeley officials say, can be used under a wide variety of conditions. Possible uses in the food, drug, feed and other industries are mentioned.

The feeding of surfactants to animals and poultry to increase production has given "interesting results," the company said. "If the use of a completely non-toxic emulsifier is the answer, it would suggest widespread use of the sugar esters in such feeding.

Sugar esters are made from sugar and fat or oil.

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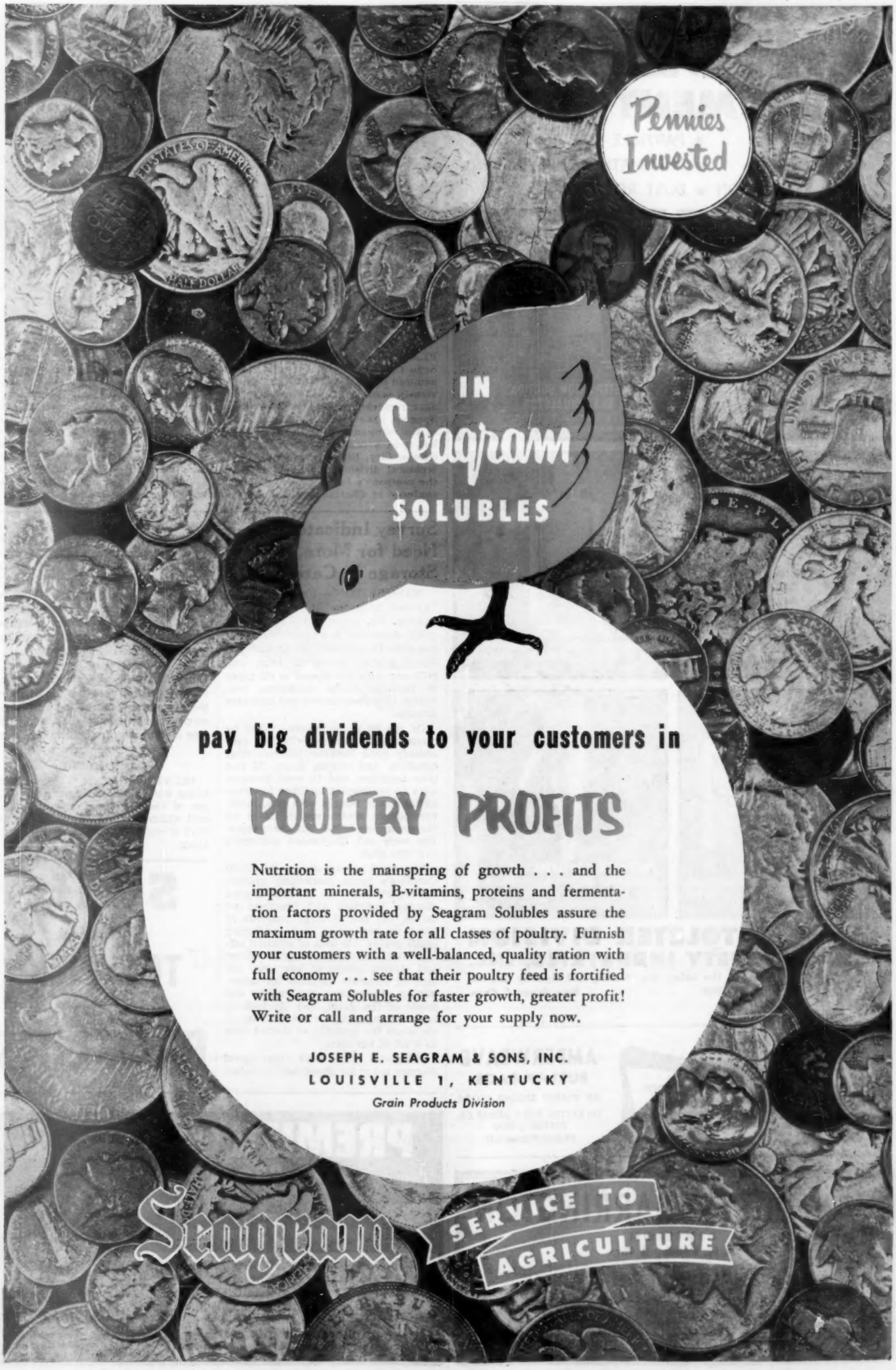
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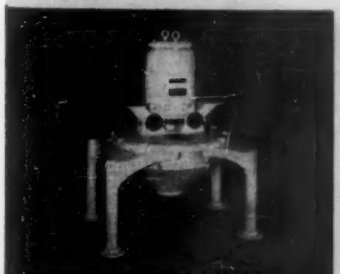

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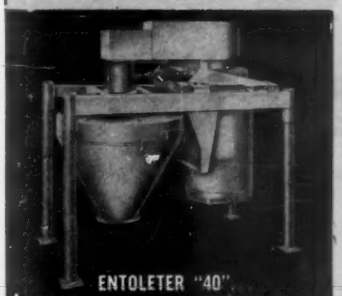

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Wendell E. Mann

Max Spencer

PLANT MANAGERS—The appointment of new plant managers at Central Soya Company's Marion, Ohio, and Chattanooga, Tenn., operations was announced by Dale W. McMillen, Jr., company president. Wendell E. Mann, previously plant manager at Marion, has been named Chattanooga plant manager replacing Robert W. Fay whose resignation has been accepted. Max Spencer, assistant plant manager at Chattanooga, has been named manager of the company's Marion plant. Mr. Mann joined Central Soya in 1936 and has held a number of production positions at Decatur, Ind., Marion, and Gibson City, Ill. Mr. Spencer joined the company in 1947 and while in the technical division, took part in the construction and operation of three of the company's four processing operations. In 1955, he was named production engineer at Chattanooga, later becoming assistant plant manager.

Survey Indicates Need for More, Better Storage in Carolina

WASHINGTON — Farms in South Carolina have few storage facilities suitable for storing and caring for grain, according to a report issued by the U.S. Department of Agriculture. Small grains, mainly in bags, and bulk ear corn are stored in all types of facilities under conditions conducive to serious insect and moisture damage.

Of the 86 grain buyers visited by marketing researchers, 33 had reasonably good facilities for receiving, handling, and storing grain; 53 had poor facilities; and 10 were truckers with no permanent facilities for marketing grain. Buyers with good facilities bought about two thirds of all the grain purchased, but these facilities were not distributed uniformly over the state.

The most serious defects in South Carolina's grain marketing system, the report said, were (1) lack of good storage facilities and practices on farms, (2) use of large amounts of labor in harvesting and marketing small grains, (3) lack of efficient off-farm facilities for receiving, handling, and storing grains at low cost, (4) lack of accurate methods for determining at elevators the quality and grade of the grain, and (5) lack of accurate methods for determining at elevators the quantity of shelled corn in a lot of ear corn.

Estimates also show that good storage space for about half a million bushels is needed in off-farm facilities to replace poor storage space. Major improvements are needed in off-farm facilities in 12 counties, and minor improvements in 20 counties. In 13 counties, the small quantity of grain moving from farms or the location of good elevators in adjacent counties would make new grain handling facilities financially hazardous.

The report is based on data collected in a field survey conducted by the marketing research division of the agricultural marketing service in cooperation with the extension service of Clemson Agricultural College.

OPEN HOUSE

BELVIEW, MINN. — An open house was held here recently by owners of the McCabe Company's feed mill which was recently expanded as part of the company's elevator operation.

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Burlap or veneer

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It is ABSORBENCY in litter that counts
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Lime Crest Laboratory Experiments

PROVE CDP BETTER PHOSPHORUS SUPPLEMENT FOR GROWING CHICKENS

Purpose of Experiments

(1) To compare the efficiency of utilization of phosphorus in
(a) 17% CDP (Coronet Defluorinated Phosphorus) and
(b) ARG DCP (analytical reagent grade dicalcium phosphate) by growing chickens.

(2) To compare the quantities of fluorine in the bones of chicks that have received 17% CDP with those that have received ARG DCP.

(3) To compare the quantities of both calcium and phosphorus in the bones of chicks that have received 17% CDP with those of chicks that have received ARG DCP.

GUARANTEED UNIFORM ANALYSIS

Phosphorus	Calcium	Fluorine
17.0% min.	34.0% min.	0.17% max.

Summary of Results . . .

- The phosphorus in CDP (Coronet Defluorinated Phosphate) is 105.93 ± 4.26% as available as that in ARG DCP (analytical reagent grade dicalcium phosphate, the theoretically perfect phosphatic mineral supplement produced for laboratory purposes, assumed to be 100% available).
- The chicks grew equally well to the age of three weeks and nine weeks, whether the source of the phosphorus in their diet was CDP or ARG DCP.
- The bone ash of the chicks receiving CDP was greater at both 3 and 9 weeks of age. At 9 weeks, the average difference, although small, *was* statistically significant.
- At both three and nine weeks of age, the ash of the tibias of the chicks contained much less fluorine than is commonly found in the bones of chicks.
- Neither at three weeks nor at nine weeks did the source of phosphorus have a significant effect on the calcium and phosphorus contents of the ash of the tibias of the chicks.

Further Information on These Experiments Sent Free Upon Request. Complete Report Available.

Let us figure the cost of CDP Delivered to Your Plant

CDP Coronet Phosphate Company
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A DIVISION OF SMITH-DOUGLASS COMPANY, INCORPORATED

Antibiotics Hike Broiler Income $20 Million A Year, Dealers Told

HUNTINGTON, W. VA. — West Virginia feed dealers attending their annual short course here were told that use of antibiotics at nutritional levels has helped to increase income of the nation's broiler industry by an estimated $20 million a year.

This was one of the points made in a speech by W. M. Reynolds, assistant director of the agricultural research center of Chas. Pfizer & Co., Inc., at Terre Haute, Ind.

Mr. Reynolds surveyed the broad role antibiotics are playing in both nutrition and health of animals.

Using the topic "Newer Knowledge of Additives," Mr. Reynolds described the increasing use of feeds containing antibiotics at high levels as one of the most significant of recent animal feeding developments.

"By using broad spectrum antibiotics such as Terramycin in this way," he said, "it is now possible to mass treat livestock and poultry populations for prevention and control of active or latent disease conditions."

He pointed out that mass medication through feeds has the major advantage of saving costly time and labor by avoiding the necessity of individual catching and handling of animals.

Use of formula feeds has almost tripled in the past 20 years, and Mr. Reynolds cited these examples of how constantly improving feeds have helped better farm output: Egg production per hen has increased 40%, the amount of poultry meat produced per 100 lb. of feed has doubled, and milk production per cow has risen nearly 25%.

Report No Advantage In Spaying Heifers

FARGO, N.D.—The North Dakota Agricultural Experiment Station has reported on the results of a cattle feeding test indicating no advantage in spaying heifers.

Steers made faster and cheaper gains than either open or spayed heifers in feedlot trials.

The researchers said that no advantage has been observed for spaying on rate of gain, efficiency of gain or degree of finish. Apparently, they said, any advantage of spaying must be as a result of management practices or a preference shown by packer buyers who may be assured that pregnancy will not decrease dressing percentage.

Early spaying, at three monhts, did not result in faster or cheaper gains than at one year.

In these trials, spayed heifers sold higher than open heifers, but this was not enough to offset the higher feed cost for the spayed heifers.

Oregon Feed Store To Vacate Landmark

OREGON CITY, ORE.—The Beatie & Guynes Feed Store, a landmark here since 1900, will soon bow to the wrecker's bar. The frame structure on Main St., garnished with Victorian glamour, will make way soon for a used car lot.

Ralph Guynes, owner of the feed store since 1928, will sub-lease another building in Oregon City's northernmost area and continue the business.

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Controlling the worms in cattle with new Pheno-Fortified Salt
"Hoooorray! STERLING BLUSALT is here now!"

Now–5 big promotions to help you sell more Sterling Blusalt, more Sterling Green'salt

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1. **BLUSALT ADS AIMED AT FARMERS** are part of Sterling's big, new "Fun-on-the Farm" campaign. The "talking" animals in these ads attract the reader's attention and interest—fast. And they give the farmer a good profit story on this effective trace-mineral salt!
2. **BLUSALT POSTERS AND POINT-OF-SALE MATERIAL** in full color also feature the "talking" animals. Together with farm-paper advertising, this makes the strongest promotion ever used for a trace-mineral salt. Check on free Blusalt displays for your store!
3. **GREEN'SALT ADVERTISING TO FARMERS.** Latest ad in this series tells about "Sucarob," the new flavor ingredient that makes Green'salt fully palatable to all livestock. Ad also shows that only improved Green'salt assures continuous low-level worm control!
4. **GREEN'SALT ADS FOR VETERINARIANS**—the men who influence today's farmers. These ads promote low-level feeding of pheno as effective, economical worm control. And they show why this treatment is best accomplished by new pheno-fortified Sterling Green'salt!
5. **ADS YOU CAN USE TO SELL BLUSALT AND GREEN'SALT** are available in mat form—for your insertion in local papers or magazines over your name. Individual Blusalt and Green'salt ads are available, as well as combination ads. Check your Sterling representative.

• IMPORTANT SALES DATA ON BLUSALT, GREEN'SALT

Remind your customers of these facts: Blusalt contains salt plus six essential trace minerals (cobalt, iodine, manganese, iron, copper, zinc) to give protection against trace-mineral deficiencies. Green'salt (salt+10% "pheno"+trace minerals) gives the same protection—*plus* control over internal parasites. Be sure you have adequate stocks of both Sterling Blusalt and Sterling Green'salt on hand . . . *to sell* and *to mix* in your own feeds. For complete feeding and mixing data on these quality salt products, write to International Salt Company, Inc., Scranton 2, Penna.

STERLING BLUSALT • STERLING GREEN'SALT—products of International Salt Company, Inc.

UP OR DOWN?

By Leonard W. Schruben
Agricultural Economist, Kansas State College

Changing Seasonal Barley Price Patterns

A part of the job of keeping up with the changes in the market is to become familiar with changes in historical price patterns. Keeping up with the market may mean the difference between running a successful feed business and going bankrupt. This is another in a series of articles reviewing changes in seasonal grain price patterns. (For wheat see Feedstuffs for March 22; for corn, April 28; for oats, June 2, and for grain sorghum, June 23.)

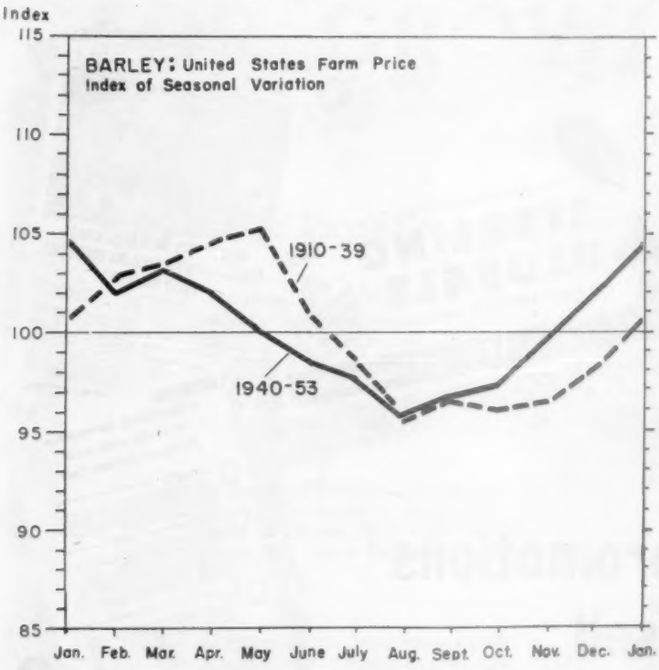
In this article comparisons are made for seasonal barley price movements before and after the initiation of price supports. This follows the general pattern of this series in picturing the changes that have taken place in the seasonal price variation of the different grains. No claim is made that price supports cause these shifts because we merely are recording what happened. You are free to draw your own conclusions.

Exhibit 1 shows the price pattern followed during the season for barley prices for the period 1910 to 1939 and from 1940 through 1953. The dash line shows the earlier period and the solid line shows the later period. U.S. farm price was used as a basis for comparison.

Notice how barley prices have tended to decline earlier in the season during the more recent years than during the period during 1910 to 1939. Although the high and low for the year tend to have been about the same level, prices have gone down earlier in the season and have also advanced earlier in more recent years.

The low point of the season coincides with the harvest of the new crop, and this is what would normally be expected. After all, it costs money to store any grain and the way those who finance this service can expect to be reimbursed is through an advance in price.

What does this mean for this year? Naturally, no one knows for certain how the pattern will develop. Odds favor for a small decline in barley prices beginning in February even though the supply this year is 8% smaller than the supply of a year before. Much, of course depends upon the policy followed by the government in the disposing of stocks of feed grain. This is an important element in the feed price picture.



Pelleting Improves Hog Feeding Results With Light Barley

FARGO, N.D. — Recent feeding trials at the North Dakota Agricultural Experiment Station show that light weight barley is worth more as feed for hogs in pellet form than it is when fed as ground meal. These findings are in addition to earlier research at North Dakota on pelleted barley.

The researchers compared light weight and plump barley in pelleted rations for swine. They found that pigs on thin barley rations gained the same as pigs fed plump barley. However, it took 10% more light barley per pound of gain than with the plump barley.

Pigs on thin or light weight barley ate more per day and got the same daily energy intake as those on the plump barley. This does not happen when the barley is fed in meal form.

The researchers concluded that pelleting improves thin barley more than it does plump barley, but the improvement is not enough to make light barley equal in feeding value to plump barley.

The improvement with pelleted barley is attributed to increased palatability and increased density, which permits greater feed intake.

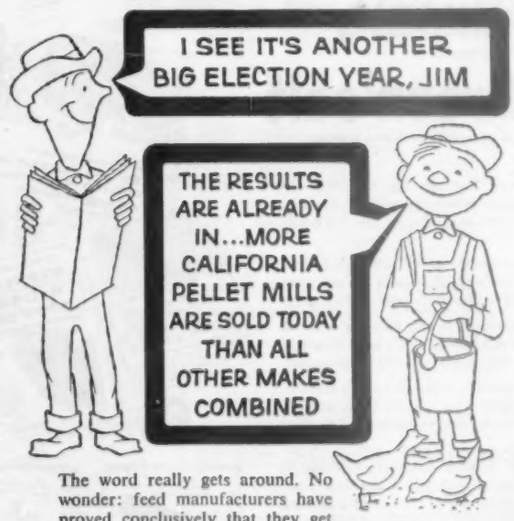
It was further brought out in the experimental work that there is no advantage in feeding plump barley to hogs up to 125 lb. and then changing to thin barley for feeding until the hogs reach 200 lb.

The work on plump-vs.-thin barley follows earlier North Dakota research on the value of pelleting barley rations for swine. The first report showed pelleted barley rations to be directly competitive with corn rations. Another report showed that protein levels of 13.5 to 14.5% were adequate for barley rations, provided the small additions of protein supplements improved the quality of barley protein.

These reports and other data show that pelleting of barley rations increases the rate of gain of growing-fattening hogs by 12 to 16% and increases feed efficiency up to 20%.

FIRE, WATER DAMAGE

MT. PULASKI, ILL. — Heavy smoke and water damage was sustained by the Romer Feed Co. here during a fire which destroyed several adjoining store buildings.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CONVENTION CALENDAR

New Listings

For the convenience of readers who scan the Convention Calendar regularly for new listings, those added to the column in the current week appear ahead of the ones which have been entered previously. The following week they will be moved to their proper slot where they will remain until the event is held.

1957

Feb. 21—Illinois Feed and Nutrition Conference; University of Illinois, Urbana.

Feb. 26-27—Poultry Housing and Equipment Conference; Pennsylvania State University, University Park, Pa.; chm., Prof. Glenn O. Bressler, Department of Poultry Husbandry.

June 11-13—Alabama Poultry Industry Assn.; Thomas Jefferson Hotel, Birmingham, Ala.; sec., P. O. Box 567, Montgomery, Ala.

● ● ●

Jan. 7-8 — Kansas Formula Feed Conference, Kansas State College, Manhattan; chm., F. W. Atkeson, head of department of dairy husbandry, Kansas State College, Manhattan.

Jan. 8-10 — National Turkey Federation, Cincinnati, Ohio; exec. sec., M. C. Small, P.O. Box 69, Mt. Morris, Ill.

Jan. 11-12—Kansas Seed Dealers Assn.; Hotel Broadview, Wichita, Kansas; sec., O. E. Case, 901 Wiley Bldg., Hutchinson, Kansas.

Jan. 13-15—New Mexico Grain & Feed Dealers Assn.; Hilton Hotel, Albuquerque, N.M.; exec. sec., H. B. Hening, P.O. Box 616, Albuquerque, N.M.

Jan. 14-15—Northwest Retail Feed Assn.; Hotel Nicollet, Minneapolis; sec., W. D. Flemming, 112 Grain Exchange Bldg., Minneapolis 15, Minn.

Jan. 14-16—Conference on Processing of Cottonseed Meal as Related to Its Nutritive Value; Southern Utilization Research Branch, U.S. Department of Agriculture, 1100 Robert E. Lee Blvd., New Orleans, La.; chm., Dr. A. M. Altschul, Southern Utilization Research Branch, 1100 Robert E. Lee Blvd., New Orleans 19, La.

Jan. 17-18—Arkansas Feed Manufacturers Assn., Marion Hotel, Little Rock, Ark.; sec., T. E. Mosley, P.O. Box 149, Little Rock, Ark.

Jan. 20-22—Indiana Grain & Feed Dealers Assn.; Claypool Hotel, Indianapolis; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4, Ind.

Jan. 22-23—North Dakota Poultry Industries Convention; Elks Club, Fargo, N.D.; Irving J. Mork, North Dakota Agricultural College, State College Station, Fargo, N.D.

Jan. 23-24 — Massachusetts Dairy Farmers Seminar; University of Massachusetts, Amherst, Mass.

Jan. 24-26—Boston Poultry Show and New England Poultrymen's Conference; Mechanics Bldg., Boston; chm., Dr. Alfred Van Wagenen, Northeastern Poultry Producers Council, 10 Rutgers Place, Trenton, N.J.

Jan. 28-30 — Southeastern Poultry & Egg Assn.; Dinkler-Plaza Hotel, Atlanta; exec. sec., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Jan. 30-Feb. 2—American Dehydrators Assn., Edgewater Gulf Hotel, Edgewater Park, Miss.; exec. vice pres., Joseph Chrisman, 430 Board of Trade Bldg., Kansas City, Mo.

Jan. 31-Feb. 1—University of New

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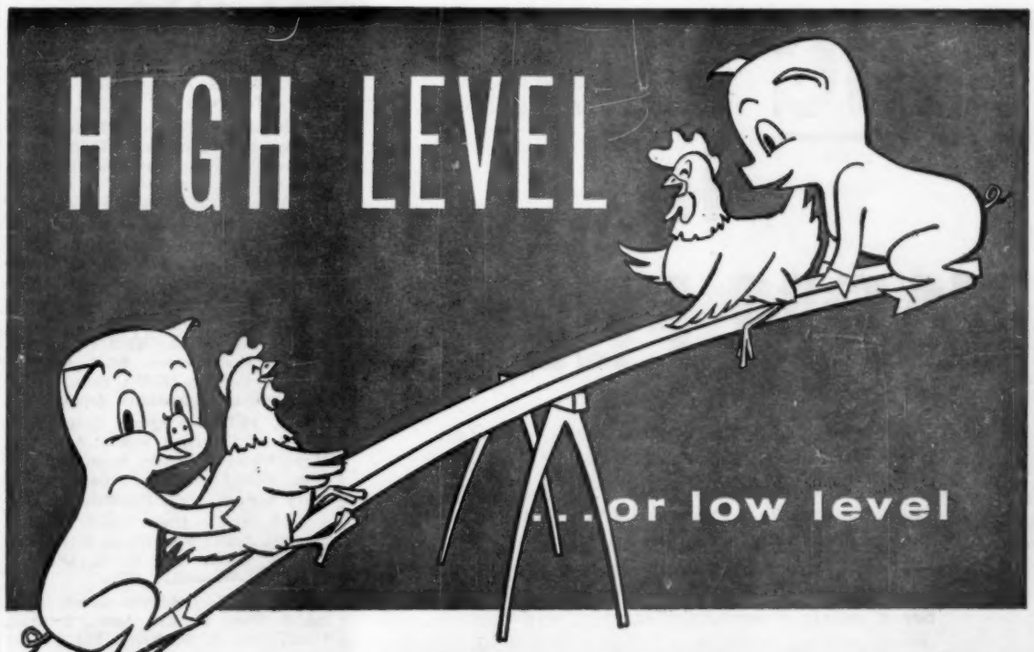

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Hampshire Poultry Health Conference; University of New Hampshire, Durham, N.H.; chm., Prof. W. C. Skoglund, Poultry Dept.

Feb. 4-5 — Cottonseed Processing Clinic; Southern Utilization Research Branch, U.S. Department of Agriculture, New Orleans, La.; chm., E. A. Gastrock, 1100 Robert E. Lee Blvd., New Orleans, La.

Feb. 4-6—Assn. of Southern Agricultural Workers, Birmingham, Ala.

Feb. 5-6 — Hoosier Turkey Trot; Purdue University; sec., David D. Jackson, Indiana State Poultry Assn., Turkey Dept., Poultry Bldg., Purdue University, Lafayette, Ind.

Feb. 7-8—Oregon Animal Industry Conference; Oregon State College, Corvallis; chm., Dr. J. R. Parker.

Feb. 10-12—Wyoming Grain, Feed & Seed Dealers Assn., Casper; sec., Everett L. Berry, P.O. Box 118, Sheridan, Wyo.

Feb. 14-15 — Washington State Feed Assn.; Olympic Hotel, Seattle; sec., J. G. Wilson, 814 Second Ave. Bldg., Seattle 4, Wash.

Feb. 14-15 — Utah Feed Manufacturers & Dealers Assn.; Brigham Young University, Provo, Utah; sec.-treas., Dr. Lawrence Morris, Animal Husbandry Dept.

Feb. 15-17—Institute of American Poultry Industries Fact Finding Conference; Municipal Auditorium, Kansas City, Mo.; pres., Cliff D. Carpenter, 221 North LaSalle St., Chicago 1, Ill.

Feb. 17-19 — Midwest Feed Manufacturers Assn., Broadmoor Hotel, Colorado Springs, Colo.; exec. vice pres., Lloyd Larson, 20 W. 9th St. Bldg., Kansas City 5, Mo.

Feb. 18 — New Mexico Feeders Day; New Mexico A&M College, State College, N.M.; chm., J. H. Knox, animal husbandry department.

Feb. 19-20 — Virginia Polytechnic Institute Nutrition School for Feed Men; Hotel Roanoke, Roanoke, Va.; chm., Paul M. Reaves, department of dairy science, VPI, Blacksburg, Va.

Feb. 24-26 — Ohio Grain & Feed Dealers Assn.; Neil House Hotel, Columbus, Ohio; sec., G. E. O'Brien, Ohio St., Greenville, Ohio.

Feb. 24-26—Colorado Grain, Milling & Feed Dealers Assn.; Denver, Colo.; sec., R. B. Kelly, 714 Cooper Bldg., Denver 2, Colo.

March 13—Distillers Feed Conference; Sheraton-Gibson Hotel, Cincinnati, Ohio; exec. director, Lawrence E. Carpenter, 1232 Enquirer Bldg., Cincinnati, Ohio.

March 13-17 — Grain Processing Machinery Manufacturers Assn.; Edgewater Gulf Hotel, Edgewater Park, Mississippi; sec., Raymond J. Walter, 511 Fifth Ave., New York 17, N.Y.

March 14-15—Oregon Feed & Seed Dealers Assn., Multnomah Hotel, Portland; mgr., Huss Hayes, Lewis Bldg., Portland 4, Ore.

March 14-17 — Pacific Dairy & Poultry Assn.; Ambassador Hotel, Los Angeles; assn. office, 1304 E. Seventh St., Los Angeles 21, Cal.

March 17-18—Quad-State Convention; Martin Hotel, Sioux City, Iowa; sec., Don Suttie, Sioux City Grain, Feed & Seed Assn., Box 341, Sioux City.

March 21-22 — Maryland Nutrition Conference; Shoreham Hotel, Washington, D.C.; chm., Dr. G. Lynn Romoser, Department of Poultry Husbandry, University of Maryland, College Park, Md.

April 2-4—Louisiana Market Poultry Show and Chicken of Tomorrow Contest; Bentley Hotel, Alexandria, La.; chm., Clyde Ingram, extension poultryman, Louisiana State University, University Station, Baton Rouge, La.

April 3—Purdue Egg Day; Purdue University, Lafayette, Ind.; chm., David D. Jackson, extension poultryman.

April 4-6—Animal Health Institute, annual meeting; Greenbrier, White Sulphur Springs, W. Va.

April 8-10 — American Association of Feed Microscopists; Phoenix Hotel, Lexington, Ky.; sec., G. M. Barnhart, Missouri Department of Agriculture, Jefferson City, Mo.

April 10-11—Texas Feed Manufacturers Assn.; Gunter Hotel, San Antonio, Texas; sec., Ben E. Schmitt, 528 Bewley Bldg., Ft. Worth, Texas.

April 12-13—Texas Grain & Feed Dealers Assn.; Gunter Hotel, San Antonio, Texas; sec., Ben Ferguson, 614 Meacham Bldg., Ft. Worth 2, Texas.

April 25-27—Kansas Grain & Feed Dealers Assn., Broadview Hotel, Wichita, Kansas; sec., O. E. Case, 609 Wiley Bldg., Hutchinson, Kansas.

April 26 — Indiana Cattle Feeders Day; Purdue University, Lafayette, Ind.; chm., W. M. Beeson, Department of Animal Husbandry, Purdue University, Lafayette, Ind.

April 26-May 1—National Fisheries Institute; Edgewater Beach Hotel,

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Chicago; Mal Xavier, 1614 20th St. N.W., Washington 9, D.C.

May 1-3 — American Feed Manufacturers Assn.; Conrad Hilton Hotel, Chicago; sec.-treas., W. T. Diamond, 53 W. Jackson Blvd., Chicago 4, Ill.

May 5-7 — Louisiana Poultry Improvement Assn.; Frances Hotel, Monroe, La.; chm., Clyde Ingram, extension poultryman, Louisiana State University, University Station, Baton Rouge, La.

May 19-20 — Missouri Grain, Feed & Seed Assn., Hotel Connor, Joplin, Mo.; sec., D. A. Meinershagen, Eagle Mill & Elevator, Higginsville, Mo.

May 20-21 — National Cottonseed Products Assn.; Shoreham Hotel, Washington, D.C.; sec., John F. Moloney, 19 S. Cleveland St., Memphis 4, Tenn.

June 6-8 — Canadian Feed Manufacturers Assn.; Saskatoon, Sask.; sec., A. J. Bunn, Intercontinental Packers, Ltd., Saskatoon, Sask.

June 9-11—Indiana Grain & Feed Dealers Assn.; French Lick-Sheraton Hotel, French Lick, Ind.; sec., Fred K. Sale, 600 Board of Trade Bldg., Indianapolis 4, Ind.

June 10-11—Eastern Federation of Feed Merchants; Hotel Commodore, New York; exec. dir., Austin W. Carpenter, Sherburne, N.Y.

June 11-12 — Montana Nutrition Conference; Montana State College, Bozeman; chm., O. O. Thomas, Animal Industry Department.

June 17-18—Georgia Feed & Poultry Conference; Dinkler Plaza Hotel, Atlanta; sec., Will L. Kinard, 3240 Peachtree Road Bldg., Room 210, Atlanta 5, Ga.

June 17-19—Association of Southern Feed & Fertilizer Control Officials; Dinkler-Tutwiler Hotel, Birmingham, Ala.; sec., Bruce Poundstone, Kentucky Agricultural Experiment Station, Lexington, Ky.

July 16-19 — American Poultry & Hatchery Federation; Municipal Auditorium, Kansas City; sec., Don M. Turnbull, 521 E. 63rd St., Kansas City 10, Mo.

Aug. 19-20 — Wisconsin Nutrition School for Feed Men; Memorial Union, University of Wisconsin, Madison, Wis.; co-chm., Gus Bohstedt and Robert H. Grummer, department of animal husbandry.

Sept. 11-12—Michigan State Hatchery Conference; Michigan State University, East Lansing, Mich.; chm., Harry E. Hathaway, Michigan State Poultry Improvement Assn., East Lansing, Mich.

Sept. 11-13 — American Pet Food Manufacturers; Drake Hotel, Chicago; sec., R. L. Kathe, APFM Division of American Feed Manufacturers Assn., 53 W. Jackson Blvd., Chicago 4, Ill.

Oct. 3-4—Texas Nutrition Conference; Texas A&M College, College Station; chm., Dr. J. R. Couch, poultry science department.

Oct. 7-9 — Northeastern Poultry Producers Council Poultry Exposition and Convention; Farm Show Bldg., Harrisburg, Pa.; chm., Alfred Van Wagenen, NEPPCO, 10 Rutgers Place, Trenton 8, N.J.

Oct. 14-16—Virginia State Poultry Federation; Hotel Roanoke, Roanoke, Va.; chm., J. Paul Williams, 615 E. Franklin St., Richmond 19, Va.

Oct. 16-17—Association of American Feed Control Officials; Shoreham Hotel, Washington, D.C.; exec. sec., L. E. Bopst, Room 036 New Chemistry Bldg., University of Maryland, College Park, Md.

Barley Group Plans Jan. 31 Conference

MINNEAPOLIS — The biennial Barley Improvement Conference, sponsored by the Malting Barley Improvement Assn., Milwaukee, and the Malt Research Institute, Madison, Wis., will be held Jan. 31 at the Nicollet Hotel, Minneapolis, announces A. J. LeJeune, director of the association.

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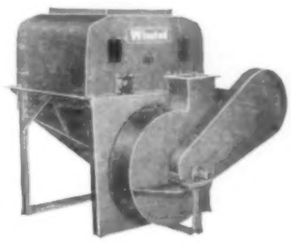

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Photo courtesy of General Mills, Belmond, Iowa plant

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The latest type Thayer Filling Scale has been placed in operation by General Mills at their Belmond, Iowa feed plant. This Thayer 1000NV2 scale is designed to be accurate within one or two ounces while filling the various types of feed formulated at this model plant. The same Thayer Scale will handle mash, pellets, molasses or alfalfa at 16 to 20 charges per minute. As shown, the automatic controls are within easy reach of the operator who can set the dials for 25, 50, 100 lbs. or other weights instantly. We invite your investigation of the Thayer Scale with its patented leverage system that neither dust and dirt nor the usual shocks and vibration can harm. Please write for full information.

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Guards the entire digestive tract, knocks out dangerous bacteria

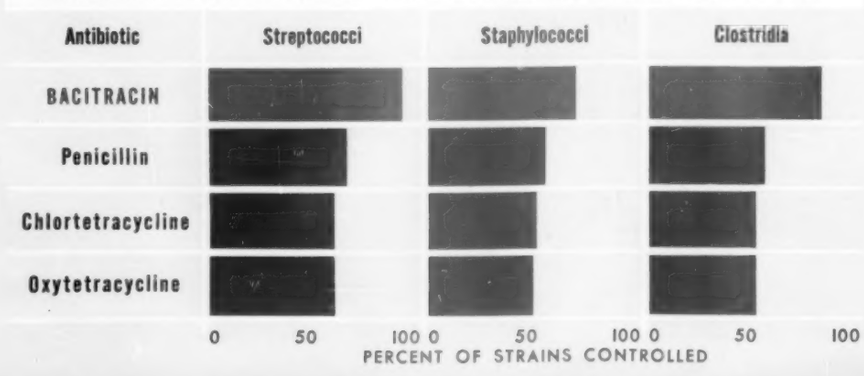
Stops Secondary Invaders — During periods of sickness or stress, resistance is lowered and secondary bacteria invade poultry and swine. The gram-positive bacteria called Streptococcus and Staphylococcus are the most numerous of the secondary invaders. Another organism, Clostridium produces toxic breakdown materials in the intestinal tract. Bacitracin is the most effective antibiotic against these troublemakers because it controls more strains of these bacteria than other feed antibiotics. In test after test, Bacitracin has proved effective in stimulating appetites, and controlling the secondary invaders that follow air-sac disease, blue comb, infectious sinusitis, and nonspecific enteritis.

Fights Black Scours — A hog trouble-maker called Vibrio is often responsible for the outbreaks of black (bloody) scours. Bacitracin is the most effective antibiotic in fighting this gram-negative bacteria because it controls more of the disease causing strains of Vibrio bacteria. Tests show that Bacitracin is effective in many swine dysenteries where other medication has failed.[1] Additional tests point out that when swine scours are treated with Bacitracin, the recovered animals are more likely to become thrifty.[2]

(1) Graham, R., Boley, L. E., and Woods, G. T.: Bacitracin in Necrotic Enteritis of Swine. North Am. Vet. 31:736.

(2) Boley, L. E., Woods, G. T., Hatch, R. D., and Graham, R.: Studies on Porcine Enteritis. II Experimental Therapy with Sulfathalidine, Sulfamethazine, Sodium Arsanilate, and Bacitracin in a Natural Outbreak of Swine Dysentery. Cornell Vet. 41:231.

BACITRACIN MOST EFFECTIVE IN CONTROLLING THESE HARMFUL BACTERIA



THESE CHARTS show the relative effectiveness of Bacitracin and three other antibiotics in controlling some of the more common bacteria that invade animals during periods of stress and disease. Bacitracin is a most effective antibiotic in fighting secondary invaders because it controls more bacterial strains in each group. That's why high-level feeds made with BACIFERM are so effective in combatting dangerous bacteria.

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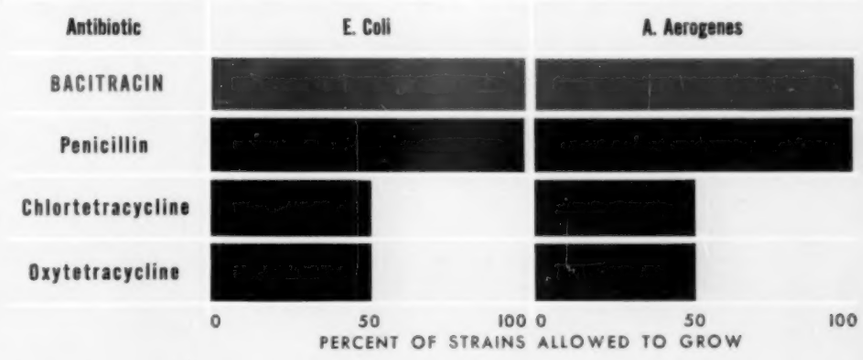
CSC BACITRACIN ANTIBIOTIC SUPPLEMENTS

SELECTIVELY BENEFITS THESE VITAMIN-PRODUCING BACTERIA IN POULTRY AND SWINE

SOME ANTIBIOTICS inhibit the growth of beneficial bacteria but Bacitracin does not. Its selective activity controls dangerous bacteria, yet allows helpful bacteria to flourish. For example, the charts show that bacitracin allows the beneficial gram-negative bacteria *E. coli* and *A. aerogenes* to grow. Other antibiotics interfere with the growth of these important vitamin-producing bacteria in the intestinal tract. For the right selective activity, choose BACIFERM for your high-level antibiotic feeds.

BACITRACIN ALLOWS MAXIMUM GROWTH OF VITAMIN-PRODUCING BACTERIA



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Expanding Demand For Meat-Type Hogs Reported

WASHINGTON — Consumer preference for leaner pork is expanding demand for meat-type hogs among packer buyers, both on major markets and at interior points, the U.S. Department of Agriculture points out.

Despite the growing demand, however, less than one fifth of the 70 to 80 million hogs marketed annually by U.S. producers are now of the meat type.

Present-day meat-type hogs, thanks to efforts already made, can be finished off for market in less time and with less feed per pound of gain than is required for lard-type hogs, USDA notes.

The meat-type hog situation in the U.S. was outlined recently in a USDA news release.

It is something in which feed men, as well as farmers, have a stake, for the future of the hog industry and the swine feed business depends in considerable measure on success in producing pork that will satisfy consumers and meet the competition of other meats.

Work Continuing

To meet expanding requirements, USDA and state researchers are continuing work begun 20 years ago to develop and improve swine breeds for increased meat production. Research thus far has provided several new breeds, along with better methods applicable to all swine herds for breeding, feeding, management, disease control, grading and marketing. Hogs that supply more lean pork are found in the long-established American breeds, as well as in new breeds developed especially for meat-type characteristics.

High quality meat-type hogs yield better than 50% of lean cuts compared to about 44% for lard-type hogs of comparable weight. The difference between meat- and lard-type hogs in the carcass is about 13 to 14 lb. of lean meat cuts—a difference that makes the meat-type worth more to the farmer, the packer and the consumer.

Consumers get the lean meat they prefer at no greater relative cost. Packers gain through not having to trim off excess fat, a step involving labor and loss. And, based on the price difference between meat and lard, the farmer's advantage from meat-type animals could amount to as much as $5 a head.

Demand Would Improve

USDA researchers concerned with hog breeding and marketing maintain that demand for meat-type hogs would improve materially if at least 50% of hogs marketed were of this type. They reason that a substantial increase in the supply would encourage a more pronounced swing to purchase of hogs on a merit basis—meat-type over lard-type. With at least a 50% supply of meat-type hogs being marketed yearly, retail stores could be assured of a constant supply of top-quality pork cuts to meet consumer demands.

Present tendency among packer buyers is to purchase on a "penalty" basis—the prices paid reflecting the presence of more lardy hogs than meat types in the lots they buy. If packers, on the other hand, could depend upon obtaining straight lots of meat-type hogs in substantial numbers, researchers believe they would be more inclined to buy on merit.

With new breeds now available, in addition to standard American breeds, to help build meat-producing tendencies, farmers need not dispose of brood sows they have in order to emphasize meat production in future litters. Researchers have found meat-producing ability is present to a degree in all breeds of swine. Usually this can be developed by crossing brood sows already on the farm with certified meat-type boars of various breeds.

MARYLAND FEED MAN DIES

HURLOCK, MD. — Roland H. Windsor, former owner of the Hurlock (Md.) Milling Co., and mayor of Hurlock, died recently at the age of 57.

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FE/448

Industry Problems Discussed at Swine Growers' Meeting

CHICAGO — Three vital problems of the nation's $4 billion swine industry occupied the attention of hog producers at the annual meeting of the National Swine Growers Council. The three problems are product promotion, disease control and the place of the meat-type hog.

Charles Bell, livestock extension, U.S. Department of Agriculture, pointed out that an industry of the magnitude of the swine business, required special attention to promotion. "But," he reminded the swine growers, "advertising and promotion are not enough. We must have a high quality product to sell."

Jim Nance, Alamo, Tenn., was elected president of the council. He replaces Wilbur Plager, Blairsburg, Iowa, who declined re-election.

Effective steps to eradicate hog cholera from U.S. swine herds were recommended by a committee on swine disease control headed by Dr. S. H. McNutt of the University of Wisconsin.

The high cost of swine disease to both producer and consumer was emphasized by Dr. C. D. Van Houweling, director of livestock regulatory programs of the Agricultural Research Service, U.S. Department of Agriculture.

"Embargoes placed against American pork products because of vesicular exanthema and hog cholera," Mr. Van Houweling said, "cut our potential pork market in half."

Mr. Van Houweling was optimistic about the fight on swine disease. "Real progress is being made," he said.

Meat-Type Hog

On the meat-type hog situation, the opinion was expressed that the industry is headed in the right direction.

Speaking for the meat-hog education committee of the council, Herbert Barnes of Ohio State University said: "To realize the full impact of the meat-type hog on the market, farmers must furnish a constant supply of meat-type hogs."

The meat-type hog is not peculiar to any one breed of hogs, Mr. Barnes said. But obviously it must fit American conditions, and it must thrive on a corn ration.

Summarizing the progress being made in the swine industry, the retiring president, Mr. Plager, said: "As producers of pork, we have worried too much about price when we should have been just as concerned about our markets.

"We have made considerable progress in promoting the swine industry during the past two years in spite of our limited budget. Greater progress lies ahead.

"We in the swine industry now know where we are going. We know now what we can do if we produce a quality product."

The meeting closed with an executive session devoted to the problem of financing the infant organization. The council has had some difficulty raising funds but hopes to carry on some very worthwhile projects for the advancement of the pork industry when sufficient funds are available.

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Just 5% G-AN-EN provides the appetite-rousing characteristics your customers want. It's a concentrated blend of nutritious products specially picked for tempting taste, "nose" appeal and food value: dried whole whey, dried buttermilk, cheese rinds, brewers' dried yeast, vitamin A and vitamin D_2 feeding oil, stability improved, niacin, sulphates of iron, zinc, copper and manganese chloride. Put extra values like these in your dry mixes . . . enjoy customer satisfaction . . . repeat business!

G-AN-EN adds vitamins, proteins, minerals!

G-AN-EN has all these extra food elements to help balance canine diets:

6 vitamins. G-AN-EN contains vitamins A and D_2 feeding oil, stability improved, B_1, riboflavin, niacin (the anti-black-tongue factor), and pantothenic acid.

6 minerals. G-AN-EN contains valuable milk minerals, calcium and phosphorus, *plus* the mineral salts, copper, iron, zinc and manganese chloride.

Milk protein. The milk protein in G-AN-EN contains all the essential amino acids in the milk proteins lactalbumen and casein.

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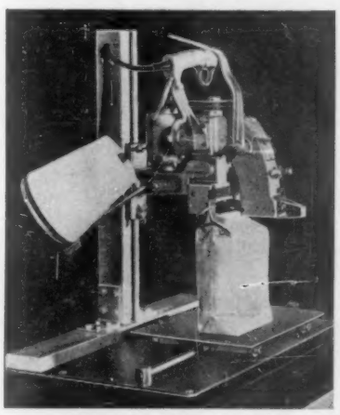
No. 5618—Carriage Conveyor

A new table model carriage conveyor, model FS, for closing of small bags with the Fischbein portable bag closer, has just been introduced by the Dave Fischbein Co. The bag closer is locked into proper position on the carriage conveyor unit by turning a knob. The machine can be instantly removed at any time for use elsewhere. The operator guides



the bag through the sewing operation which is controlled by a foot switch. The carriage glides on ball bearing rollers and returns automatically to the starting position, ready for the next bag. Adjustable for varying size bags, the conveyor accommodates the 2½ lb. cone of thread or the 4 oz. cone. Secure more complete details by checking No. 5618 on the coupon and mailing it to this publication.

No. 5619—Sack Cleaner

Bulletin 157-A is a new publication released by Sprout, Waldron & Co., Inc., which gives the details on its line of sack cleaners. All of the units of these sack handling systems are steel constructed and are such that installation can be made to suit any available space or individual preferences. The cleaning cage of each sack cleaner can be located in any corner of a building, warehouse or outside on a loading platform with the fan and collector placed overhead nearby or at some remote point. A safety cage or basket is provided on each of these units to prevent sacks from entering the system. The bulletin will be sent if you will check No. 5619 on the coupon and mail it to this publication.

No. 5620—Dog Health Record

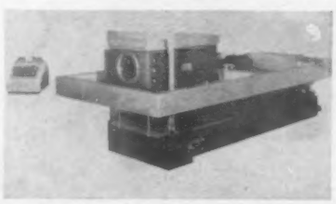
A dog health record, designed to help the owner keep a continuous log of essential health data on his pet, is being distributed as a public service by the Gaines Dog Research Center. The record provides space for the listing of the dog's family history, his life as a puppy, and entries on vaccinations, wormings, ailments, injuries and hospitalization. The information is most helpful when a dog is brought in for diagnosis or treatment by a veterinarian, who would otherwise, in most cases, have to depend on the owner's recollection of the events. A copy of "Your Dog's Health Record," complete with passport-type envelope, may be had on request. Check No. 5620 on the coupon and mail it to Feedstuffs.

No. 5621—Water Medication

A water-soluble form of nitrofurazone is being distributed on a limited-area basis by Hess & Clark, Inc. The product, Nitrofurazone Soluble, is being distributed in southeastern Pennsylvania and southern New Jersey. The product is said to be an effective agent in the prevention and treatment of intestinal (Eimeria necatrix) and cecal (Eimeria tenella) coccidiosis and in fighting secondary or low level infections. A further advantage claimed is its sanitizing action in poultry water. Secure details by checking No. 5621 on the coupon and mailing it to Feedstuffs.

No. 5622—Weighing Belt Feeder

The Thayer Scale & Engineering Corp. has developed a new continuous weighing belt feeder for the basic material processing industries. Based on the patented Thayer leverage system, which has no knife-edge pivots, the unit is claimed to have outstanding accuracy and performance characteristics. Knife-edge pivots have been eliminated. The continuous weighing feeder has been designated as model 1200C and can be



furnished for handling materials such as rock salt, phosphate rock dust, ammonium nitrate and other fertilizers, grains, flours and any other material which may have flow characteristics varying from free-flowing to sticky. The unit can be furnished in various sizes for handling production rates from hundreds of pounds per hour to hundreds of tons per hour. A weight totalizer is furnished with the unit and a rate indicating dial is furnished in the face of the scale. This dial indicates the exact rate of feed through the unit at any given instant. Chart recorders for mounting on the scale or for remote mounting can be furnished to indicate the rate of material weighed and the accumulative weight handled at any period of the day. A load-out counter can be furnished so that the feeder can be set for any given tonnage and when that tonnage has been weighed through the feeder, the feeder will automatically stop and an electrical signal will indicate that the total desired load has been weighed. An adding machine can be furnished with the unit. Secure more complete details by checking No. 5622 on the coupon and mailing it.

Also Available

The following new products have been described in previous issues of Feedstuffs and information about them may still be obtained by jotting the appropriate number on the coupon and forwarding it to Feedstuffs.

No. 5585 — Electrical, directional storage distributor for free flowing materials, K. W. Rodemich Co., Inc.

No. 5586—Soapless dairy washing powder, Pennsylvania Salt Manufacturing Co.

No. 5587—Loose salt feeding bowl for stanchion or wall mounting, Morton Salt Co.

No. 5588—Booklet on poultry feeding and management, Pillsbury Mills, Inc.

No. 5589—Warehouse corn sheller, Belle City Manufacturing Co.

No. 5590—Corn sheller for elevators, Triumph Division, C. O. Bartlett & Snow Co.

No. 5591—Pellet mill bulletin, Sprout, Waldron & Co., Inc.

No. 5592—Bagging equipment catalog, Bemis Bro. Bag Co., Packaging Service Division.

No. 5593—Dried cane blackstrap molasses product, VyLactos Laboratories, Inc.

No. 5594—Antioxidant guide, U.S. Industrial Chemicals Co.

No. 5595—Combination bagging scale and sewing machine, Burrows Equipment Co.

No. 5596—Fire detection system, Seedburo Equipment Co.

No. 5597—Cereal ration prepared as a feeding supplement, Pablum Products Division of Mead Johnson & Co.

No. 5599—Pneumatic delivery of bulk feed, Baughman Manufacturing Co.

No. 5600 — Magnetic separators, Cesco.

No. 5601—Hydraulic auger feed unloader, Simonsen Manufacturing Co.

No. 5602—Kit for change-over of dust seed treaters to handle ready-mixed liquid seed treating chemicals, Panogen, Inc.

No. 5603 — Antibiotic supplement for swine, cattle and sheep, American Cyanamid Co.

No. 5604—Bulk feed bodies, Henderson Manufacturing Co.

No. 5605—Instruction and repair parts book for corn sheller, Belle City Manufacturing Co., Inc.

No. 5606—Soluble Terramycin product for poultry drinking water, Chas. Pfizer & Co., Inc.

No. 5607—Rat and mouse bait, J. T. Eaton & Co., Inc.

No. 5608—Hog feeding and management book, Wirthmore Feeds.

No. 5609—Cyclone attachment for feed unloading, Sprout, Waldron & Co., Inc.

No. 5610—Continuous process feeding of liquids and/or solids, Omega Machine Co., division of B-I-F Industries, Inc.

No. 5611—Truck-mounted bulk feed and grain handling system, West Fargo Manufacturing Co.

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- ☐ No. 5619—Sack Cleaner
- ☐ No. 5620—Dog Health Record
- ☐ No. 5621—Water Medication
- ☐ No. 5622—Weighing Belt Feeder

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vitamin D_2

At your feed dealer's or write direct to SILMO CHEMICAL CORP. *Vineland, N.J.*
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Arkansas Feed Manufacturers to Meet Jan. 17-18

LITTLE ROCK, ARK.—The annual meeting of the Arkansas Feed Manufacturers Assn. will take place at the Hotel Marion, Jan. 17-18. The program for the first day will begin with a dinner meeting of directors and committee members at 6:30 p.m., to which all association members are invited. Committee meetings will follow.

The meeting will be resumed on the following morning and the official opening of the convention will take place at a noon luncheon meeting. A social hour will precede the annual banquet in the evening.

2 Poultry Scientists Accept Assignments On PENB Committee

CHICAGO—Two more poultry scientists have become members of the technical advisory committee of the Poultry & Egg National Board which is being chairmaned for the ensuing year by Dr. William J. Stadelman, department of poultry husbandry, Purdue University.

They are Dr. George M. Briggs, National Institute of Health, Bethesda, Md., and Dr. Herbert S. Wilgus, Peter Hand Foundation, Chicago.

The 5-man committee is appointed by the Poultry Science Assn. to advise PENB on technical matters relating to publicity and promotion of poultry products.

The other members are Dr. Hans Lineweaver, Western Utilization Research Branch, U.S. Department of Agriculture, Albany, Cal., and Dr. Milo Swanson, department of poultry husbandry, University of Minnesota, St. Paul.

Dr. Stadleman succeeded Dr. Lineweaver as chairman at the recent semi-annual meeting here and the latter was elevated to the position of chairman emeritus and will remain on the committee for another year.

The committee reviewed the PENB research grant program and agreed to further develop plans whereby the research information can be made more useable for PENB and also reviewed nominations for the annual PENB research achievement award and selected a 1956 winner who will be announced at the PENB annual planning conference, Jan. 31.

College Cow Sets National Record

PULLMAN, WASH. — Chinook Monitor Barbee, six-year-old member of the Washington State College dairy herd, has set a new record on twice daily milking for all members of her clan—the Holstein breed.

Dr. Ralph Erb, dairy scentist, says Barbee's record production includes 25,334 lb. of milk and 1,012.6 lb. of butterfat in a 305-day lactation period. Those are the official figures. Barbee kept right on producing after the 305-day lactation period and dumped a total of 27,381 lb. of milk and 1,103 lb. of butterfat into the bucket for the year.

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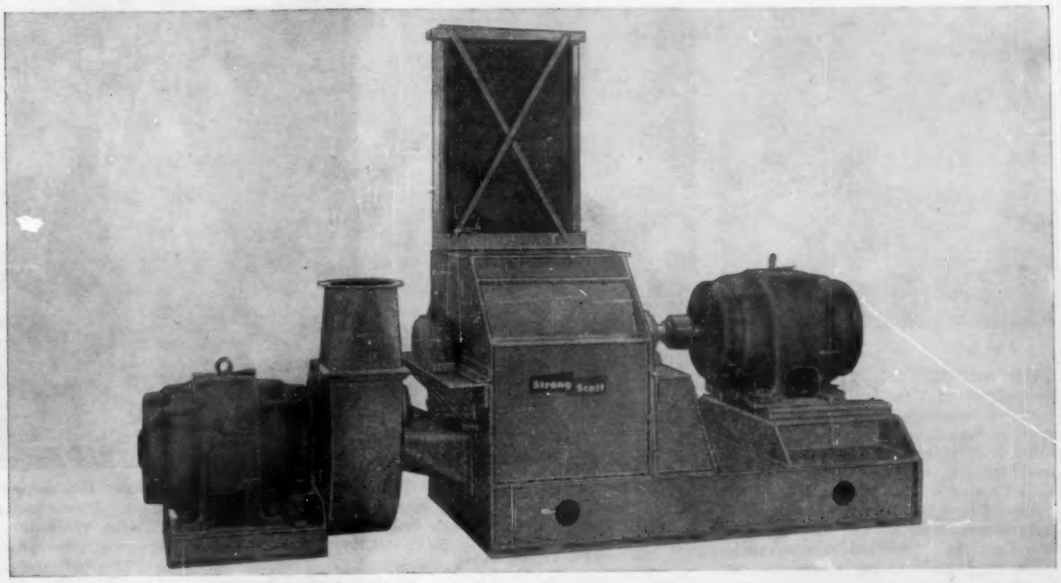

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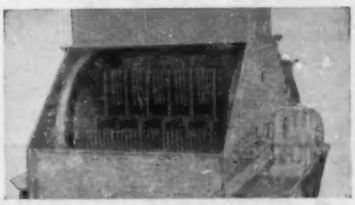

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Strong-Scott Hammermill Screens Outlast Ordinary Screens Up to 10 Times

Strong-Scott offers the first Hammermill with the new long-life, quick-change screens. The long-life screens are guaranteed under normal grinding conditions, to last up to ten times as long as ordinary screens, and at the same time afford higher capacities by maintaining sharper screen edges.

This Hammermill can be furnished with as many as five sets of quick change screens, which allow immediate selecting and changing. These can be changed from the floor above while the mill remains in operation . . . another factor which assures steady, high capacity output.

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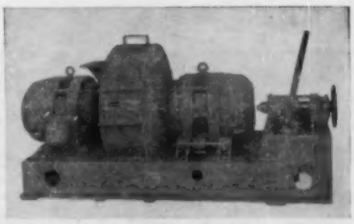
For your convenience, Strong-Scott maintains a Customer Service Laboratory, complete with full line of grinding, mixing and separating equipment. Write to Strong-Scott for full details of this no-cost service for you.

The ATTRITION MILL manufactured by Strong-Scott is a high capacity, heavy duty mill. Ideal for grinding, shredding, fluffing or granulating fibrous or brittle products.



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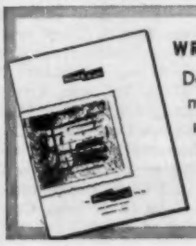

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WAREHOUSING DISCUSSION—Here are three of the speakers who addressed feed men at the Midwest Feed Production School. J. D. Johnson (left), General Mills, Inc., Minneapolis, covered warehousing and loading, and here he and the other two speakers are discussing some of the warehousing conditions assumed for the model mill in the feed production cost study which was presented at the school. Looking on are Dr. W. E. Poley (center), Zip Feed Mills, Sioux Falls, S.D., and Lionel Ball, Cooperative G.L.F. Exchange, Buffalo.

A START—Ground has been broken for a new Merchants Exchange building in St. Louis to replace the building which has served members for nearly a century. The new structure will be built at 5200 Oakland Ave., on the site formerly occupied by the Walsh Memorial Stadium. The old river front exchange will then be razed. Present for the groundbreaking ceremony pictured above were Raymond R. Tucker, mayor of St. Louis; Walter H. Toberman, secretary of state for Missouri; Ray B. Bowden, assistant to the president, Grain & Feed Dealers National Assn.; Harold C. Banks, president of the Exchange; Harold H. Vogel, chairman of the building committee, and Walter J. Krings, secretary-treasurer.

Van Ambrose Merle Powers

TWO APPOINTMENTS — The appointment of Van Ambrose as assistant manager of the LaSalle, Ill., district has been announced by Leland S. Rolf, vice president and general sales manager of Honeggers' & Co., Fairbury, Ill. Mr. Rolf also announced that Merle Powers has been named manager of the Quincy, Ill., territory. Mr. Ambrose was formerly with the Interlocking Fence Co. as a store and district manager. Mr. Powers has had 17 years of selling experience in the food field.

NATIONAL ALFALFA MEETING — The National Alfalfa Dehydrating & Milling Co. is believed to have had the largest single company representation at the Midwest Feed Production School in Kansas City Dec. 3-5. More than 40 plant managers from Michigan, Missouri, Kansas, Illinois, Oklahoma, Texas, New Mexico, Idaho, Nebraska and Colorado attended the school. They gathered with company officials following one of the evening sessions for the company's annual production managers' meeting. Among the company officials who spoke were the following from Lamar, Colo.; Henry Hofmann, president, Pickens West and Loren Estep, production management men; William Shackelford, comptroller; and John Bressler, production personnel. Other speakers were William Alexander, purchasing agent, and A. R. McFadden, in charge of sales, both of Kansas City. They discussed National's 1957 production program and reviewed expansion plans.

Camera Views of the News

3-DAY CONFERENCE—Sales representatives of Hoffman-Taff, Inc., are shown above with P. F. (Pete) Wertz (third from left), sales manager of the animal nutrition division, as they met at the home office in Springfield, Mo., for a three-day sales conference. Left to right are Wayne Buffalo, Greenville, S.C., who covers Florida, Georgia and Tennessee; Hal Gillott, Philadelphia, East Coast sales manager; Mr. Wertz; Verne Drennen, Kansas City, midwest sales manager; Calvin Baird, Chattanooga, who represents the company in Louisiana, Alabama, Mississippi, Kentucky and Tennessee, and Francis Lentz, Charlotte, N.C., who represents Hoffman-Taff for the Harris-Crane Co. in South Carolina, North Carolina and Virginia.

BANKERS VISIT MILL—A group of Kansas bankers recently toured the million-dollar push-button feed mill of the Staley Milling Co. in Kansas City to gain more knowledge about the feed industry. The bankers are members of a newly formed organization called the Association of Agricultural Representatives of Kansas Banks. They are the men who supervise the loans to farmers and other agricultural businesses in local banks throughout the state. Shown in the Staley laboratory discussing a quality control test, from left to right, are Hack Dawson, First National Bank, Leavenworth; T. W. Staley, general manager of Staley Milling Co.; John Gorton, Bank of Commerce, Chanute; Linton Lull, Smith County State Bank, Smith Center, president of the new association, and Elmer Modeer, Staley nutritionist. There were about 15 in the group that toured the mill. James E. Leker, Staley production manager, and Dick Templeton, engineer, were in charge of the tour. During their two days in Kansas City, the bankers also visited the stockyards and the Board of Trade.

Borden's

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Now, from Borden's, whose laboratories and test farms have brought to the feed industry so many revolutionary developments in poultry and livestock feeding, comes MRB . . . a milk replacer base for use in specialized rations such as calf milk replacers, calf starters, pig pre-starters and pig starters. Packed with important milk nutrients so essential to fast early growth and greater feeding profits, Borden's MRB is highly digestible, wholesome and palatable. And of possibly greater importance is the fact that its unusual economy makes MRB ideal for use in all feeds now using high-priced milk products.

Also . . . and this is important . . . Borden's MRB is a proved product, perfected by long and careful research and practical field testing.

Mail the coupon today . . . find out how Borden's MRB can add more growth power to your feeds and help cut costs!

PERFECT FOR DOG AND CAT FOODS AND FUR ANIMAL CEREAL BASE

Borden's MRB meets every requirement for a supplement high in milk nutrients but low in lactose for feeds like dog food (meal and canned), cat food and fur animal cereal base.

*Borden's copyrighted name for its milk replacer base.

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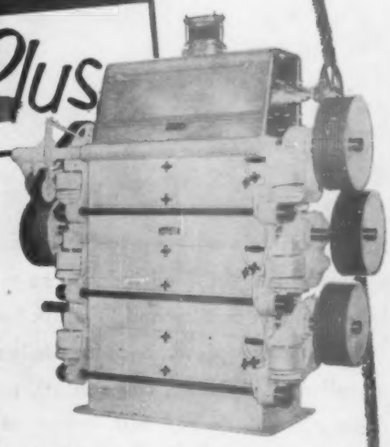

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Sprout-Waldron Roller Mills are convenient, accessible, readily adjustable, with cool, dustless operation. Particle sizes can be accurately controlled. Write for Bulletin 153-A.

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FE/470

MAIN PLANT—The horseshoe-shaped plant above is headquarters for Hess & Clark, Inc., Ashland, Ohio. General offices occupy the left wing of the building; manufacturing facilities and the control laboratory are in the center and right wing. The factory has 3½ acres (154,000 sq. ft.) of floor space.

Research, Expansion Characteristic Of Feed Trade, Allied Firm's Growth

ASHLAND, OHIO — The steady growth of the feed industry has been aided and encouraged by the equally rapid expansion of many firms in related industries.

The search for improved nutrition practices and the desire to increase the efficiency of livestock production are the incentive for the feed trade and industries allied to it. Sometimes advances come through the betterment of existing products and often expansion results from new products developed in the laboratories.

A firm which typifies the expansion characteristic of the feed and allied trades is Hess & Clark, Inc., Ashland, Ohio. The company operates two divisions: A feed products division, selling feed medications and concentrates to feed manufacturers; and an animal health division, selling packaged products through almost 18,000 dealers.

Within the last two years both the physical facilities and personnel of the firm's research center have been greatly expanded, according to company spokesmen. Laboratory facilities have doubled and several new buildings have been constructed. Five scientists have been added to the research staff. The study of all types of animal and poultry disease problems is being intensified.

Among the scientists who have joined Hess & Clark during the past year are Dr. Richard Knauff, a research veterinarian who is a graduate of the University of Minnesota college of veterinary medicine; John Banford, a graduate of the University of Alberta school of pharmacy who worked as a control chemist and research pharmacist before joining the company; and Dr. Kenneth Wychoff, who holds a doctorate in chemistry from the University of Michigan.

Dr. James E. Briggs joined the firm in 1955 as director of field research. He received his Ph.D. in animal nutrition at Cornell University, formerly worked as director of nutrition research for a large feed manufacturer and taught at Purdue University. Dr. Robert Wolfgang, prior to joining the company in 1955, was professor of parasitology at McGill University, Quebec, where he received his Ph.D.

Dr. Paul D. Harwood, director of research, and Dr. James Guthrie, research veterinarian, both joined the company in 1940.

Research, say company officials, is the backbone of the firm's operation,

Don't Let TOO MUCH or TOO LITTLE ***MOISTURE***
ROB YOU OF PROFITS!!!

Get a
Steinlite
60 SECOND MOISTURE TESTER

Too much or too little moisture can unnecessarily rob you of profit dollars. When your profits depend on a fast, accurate method of determining moisture, depend on a Steinlite Moisture Tester, as thousands of other grain, feed and seed men do. Customer demand for a moisture tester of unequalled performance and dependability has made the Steinlite the most widely used moisture tester in the world.

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RESEARCH — The above scene is typical of the varied research activities under way at facilities of Hess & Clark, Inc., Ashland, Ohio. Here a company research veterinarian is dosing a hog as part of an experiment on a new worming product at the firm's research farm. A period of extensive tests at leading universities usually follows work conducted at the company's research farm.

which is centered in the Ashland factory covering 3½ acres. In order to test research findings a research farm has been operated since 1924. Here the goal is to operate the farm similar to other midwestern farms so that all experiments and tests can be conducted under practical, on-the-farm conditions. Company officials say that the application of the nitrofuran family of drugs to poultry and livestock diseases is one of the most significant developments made at the research farm in recent years.

All told, Hess & Clark manufactures more than 50 formulated animal and poultry health products, in surroundings quite unlike those in the old stable where the company's first products were produced 63 years ago. However, the goal today is the same as that of the founding partners, Dr. Gilbert Hess and J. L. Clark, according to company officials. That goal is to help the U.S. farmer raise more profitable livestock and poultry.

Whitmoyer Schedules School for Feb. 25-27

MYERSTOWN, PA. — The next poultry health and nutrition school which will be held by Whitmoyer Laboratories, Inc., has been scheduled for Feb. 25-27 here, according to Dr. J. R. Wiley of the Whitmoyer firm.

Forty-one students from the U.S. and Canada attended the recent three-day sessions which supplemented the home study phase of the course previously completed by the students. Poultry servicemen, hatcherymen and feedmen were included in the group.

Further information about the February class may be secured by writing to Dr. Wiley.

NEW ELEVATOR CORPORATION

RANTOUL, KANSAS — The Star Grain & Lumber Co. here has been purchased by a new corporation, the Rantoul Lumber & Grain, Inc. Rex Christie, Ottawa, Kansas, is president of the corporation, Lloyd Griffith of Rantoul is vice president, and Howard Caylor of Rantoul is secretary-treasurer. G. B. Gilbert, formerly manager of the Star firm, is manager for the corporation.

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LIVER MEAL—VITAMIN OILS
FEATHER MEAL—FEED INGREDIENTS
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Egg Candling-Grading Machine Invented

McPHERSON, KANSAS — Jonas Stucky, who has been in the feed and produce business here nearly 30 years, has developed a combination candling-grading machine for eggs which is said to be semi-automatic.

The machine is in operation at the Stucky plant. A mechanic, John I. Gustason, built the parts and assembled them from Mr. Stucky's design. The two men have worked on the patent for four years. The result is an assembly line candler for eggs and a grader, all in one machine.

The device can candle and grade 10 cases of eggs in an hour, Mr. Stucky says. Eggs are placed, six abreast, on an endless belt which moves them to a channel ditch of another belt which moves them into the candling section. Eggs pass over a series of concave rollers which roll them over several times and also turn them end over end.

A strong light below the rollers makes it possible to check any air bubble, blood spots or other defects, Mr. Stucky says. From there the eggs pass over a grader where a system of scales weighs them and channels them on ramps into the various grades. The machine requires a one third horsepower motor to operate it, plus two workmen.

Mr. Stucky plans to have additional machines manufactured.

SHIPMENTS INCREASE

KANSAS CITY — Railroad shipments of formula feed from Kansas City mills during the week ended Dec. 11 totaled 362 cars, it has been reported by the U.S. Department of Agriculture. This compares with 308 cars for the previous week and 318 cars in the comparable week a year ago.

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MARKETING TOP QUALITY
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REPORT TO THE FEED INDUSTRY

"Lowest cost...highest rate of gain I've ever had"

C. W. Frederick uses supplements with 'Stilbosol' to make 3.05 lbs. average daily gain on 53 head of mixed Angus and Hereford steers . . . cost per lb. of gain—17.75¢

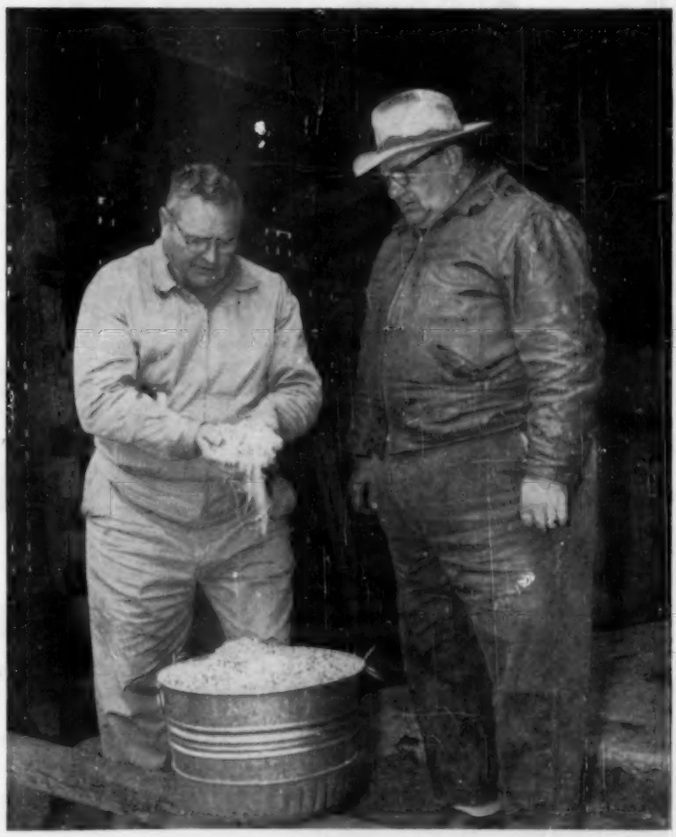
by Eugene S. Hahnel

Mr. C. W. Frederick of Marion, Ohio, is another enthusiastic booster for 'Stilbosol'-fortified beef supplements.

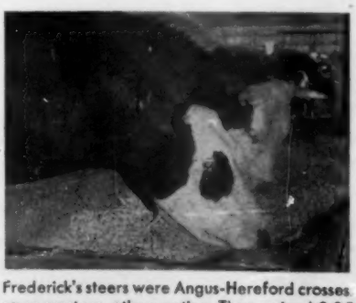
"I've been feeding cattle for 5 years," Mr. Frederick reports. "I'm convinced this is definitely the lowest cost per pound of gain and the highest rate of gain I've ever had. I'm feeding out 47 head again this year, using supplement with 'Stilbosol,' and I'm tickled to death with their progress."

While his cattle are on pasture, Frederick feeds a ration of ground ear corn and oats. When they go into drylot, he feeds ground corn and cob meal, oats, hay and supplement with 'Stilbosol.'

Like so many other successful feeders, Mr. Frederick has come to like and appreciate the helpful service he can get from his feed manufacturer. Both farmers and the feed industry benefit greatly through such mutual respect and cooperation.



Mr. Frederick and his feed manufacturer's serviceman, Bill Dietsch (left), examine and discuss Mr. Frederick's present grain ration which he balances with commercial 'Stilbosol'-fortified supplement. This story of Mr. Frederick's success with 'Stilbosol' in his ration will be read by cattle feeders throughout the country in Lilly advertisements appearing in fifteen farm magazines.



Frederick's steers were Angus-Hereford crosses, some western, others native. They gained 3.05 pounds per day for 167 days. Cost per pound of gain averaged 17¾¢ by using 'Stilbosol.'

Lilly products for the feed industry

PROCAINE-PENICILLIN-G
CALCIUM PANTOTHENATE
VITAMIN B_{12}
'STILBOSOL'

'Stilbosol' is sold only to the feed manufacturing industry.

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If it was planned and built by Ibberson, that is. You'll be proud of your Ibberson engineered plant. Over 70 years of experience in planning and building Feed Plants, Seed Plants and Elevators is at your service.

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Engineers and Contractors *Minneapolis, Minn.*

Feather Meal Used Successfully in Livestock Rations

ST. PAUL—Minnesota and other research on the use of feather meal in livestock rations was reviewed recently by Dr. R. M. Jordan of the University of Minnesota animal husbandry department.

Dr. Jordan told of his work with feather meal as a source of protein for lambs, and he also mentioned work at other stations.

Feather meal, he noted, contains about 85% protein, with poultry feathers processed so that the protein is available for animal use.

Most of the research in which feather meal has been tested as a protein source has been done with chickens, Dr. Jordan pointed out in a report in a University of Minnesota publication. In the majority of cases, 2 to 3% feather meal has been added to the total ration in substitution for a part of the protein source. Equal or greater weight gains have been made on such rations. In fact, a good deal of the present research is to determine what unidentified growth stimulants are contained in feather meal.

Only a small portion of work has been done in which feather meal has been fed to some of the other classes of livestock, Dr. Jordan said.

Investigators at the Virginia station fed it to growing swine and obtained rather disappointing results. When fed to 25- to 30-lb. hogs, the rate of gain was slower than with the basal ration, due to an imbalance of amino acids. Conversely, these workers found it fairly satisfactory as a partial source of protein for wintering cattle.

Animal scientists in Arkansas also reported good results with feather meal for wintering cattle. However, it took about two weeks for the calves to get adjusted to it.

Minnesota Studies

Dr. Jordan said that ruminants, which can manufacture protein if a source of energy and nitrogen is available, are the logical type of animal to which this kind of protein should be fed. Therefore, the Minnesota station has been testing feather meal as a source of protein for lambs being fed.

A mixture of ground feathers, ground corn and soybean oil meal has a slight tankage odor. However, said Dr. Jordan, if the lambs are started on this type of protein supplement at the beginning of the feeding period, it does not affect feed consumption. The method of processing feathers—high steam and heat, or lime—does not affect the palatability of the protein supplement, he said.

The rate of gain of groups fed feather meal was as great or greater than for the groups receiving soybean oil meal. In trials in which a simple mixture of feather meal and ground corn was fed as a protein supplement, the rate of gain was actually greater than for the control group or the group receiving a mixture of soybean oil meal and feathers.

This indicates, Dr. Jordan said, that the protein in feather meal is available and that its quality is such that protein from other supplements is not necessary in order for sheep to utilize the protein in feather meal. He said that feather meal processed by the hydrated lime method resulted in as great a gain as the control ration.

Since feed consumption was about the same in all lots, differences in feed efficiency reflected the differences in rate of gain. For the most part, these were not different between the lambs fed the various feather meal rations and the control rations. Nor did the feeding of various levels of feather meal have any effect on carcass grade or yield.

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is at the MARKET

We're talking now about your customers who are feeding for "good" to "choice" grades. For them to get fast gains and proper finish, a high energy, properly supplemented ration is required.

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Minnesota 36% comes to you with 2 pounds more protein in every bag. It's the quality supplement for mixers and manufacturers of quality feeds.

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FEED FIRM SOLD

HOBART, OKLA.—Leonard Dunn, who formerly operated a feed store in Hobart, Okla., has sold his firm to Noland Hardwich and Mrs. Hardwich of Rocky, Okla.

"SEE-ALL" PLASTIC HOVER

Save ½ on brooding costs. Heavy, clear plastic. Constant view of chicks. Easy to clean. Farmer agents and salesmen wanted. Only $7.00.

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WHOLE and GROUND GRAINS
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MINNEAPOLIS, MINNESOTA

AT THIS TIME OF THE YEAR IT IS A PLEASURE TO TURN ASIDE FROM EVERYDAY AFFAIRS AND SEND TO OUR FRIENDS, OLD AND NEW, WARM SEASON'S GREETINGS AND SINCERE BEST WISHES FOR THE COMING YEAR

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Feeding the Breeding Flock for Hatchability

● By Dr. Paul E. Waibel

University of Minnesota

EDITOR'S NOTE: In the accompanying article, Dr. Paul E. Waibel of the University of Minnesota poultry department discusses the nutritional requirements to produce a good chick. He deals with the various nutrients, including energy and protein, vitamins, minerals and unknown factors and antibiotics. Dr. Waibel outlines recent developments in this field and at the same time points to the need for further research. This article is an abstract of a talk by Dr. Waibel at the Minnesota Poultry Hatchery Assn. convention.

v v

While the percentage of fertile eggs which hatch (hatchability) is an important calculation, it represents only part of the hatching problem. Provided the farmer supplies excellent management and good feed to the chicks, it is in a very real sense the hatcheryman's responsibility to provide chicks able to adjust to the newness of eating, drinking and competing. This discussion will deal with the over-all nutritional requirements to produce a good chick, rather than with nutrient deficiencies as they might result in specific embryonic mortality symptoms.

Generally, the same nutritional principles apply whether hens are producing table eggs or whether they are producing eggs for hatching. In either case we wish the hen to produce its maximum number of eggs, and to do this the ration must have good nutritional "balance." Rations fed to breeding hens are, however, usually more expensive because of extra fortification which acts as insurance for the production of a healthy, lively chick.

Prior to discussing the nutrients which are required in the hen's ration, it is pointed out that the nutrient making up the greatest part of the hen's diet is not supplied through the feed bag—it is water. The hen will consume more than twice as much water as air-dry feed, on a weight basis.

The statement has been made in recent months that energy-protein ratios are probably not too important in the nutrition of the hen. The basis for such a statement is the recent observation by Wisconsin and Colorado workers that considerably lower amounts of dietary protein than had been assumed essential were required for a good rate of egg production. Such levels were around 12 to 13% of the ration whereas it is known that birds also produce eggs well with about 18% protein in the ration. The writer believes it is important to consider the long range action of various energy-protein levels on the metabolism and future well-being of the hen, and that some optimum energy-protein ratio must be found by experimentation.

It has become apparent that highly efficient rations are able to nourish hens which can produce more eggs than rations of perhaps five years ago which were lower in energy because of substantial dietary levels of wheat bran, wheat middlings, alfalfa and poor quality oats.

The highly efficient ration will not only improve performance but will do so on less pounds of feed per dozen eggs produced. The work of Dr. T. C. Byerly at the Maryland Station 15 years ago pointed out that a 4½ lb. hen would produce a dozen eggs on 5.3 lb. of feed and that a 7 lb. hen would require about 6.6 lb. per dozen, provided an egg production rate of 200 eggs per year was achieved. In comparing these values with similar efficiency values developed at Cornell University by Dr. F. W. Hill and his associates, it was estimated that the rations used in this work of 15 years ago contained perhaps 865 calories of productive energy per pound of ration. If, however, a more modern ration containing 1,045 calories per pound were employed in a similar type of comparison, the 4½ lb. hen would have consumed about 4.2 lb. of feed per dozen eggs, while the 7 lb. hen would have consumed 5.2 lb. of feed per dozen eggs produced.

The approximate 20% less feed required per dozen eggs with the more efficient ration is directly related to the 20% higher energy content in the latter ration. In view of the possible superior egg production performance of birds receiving a higher

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Paul M. Pickard

NAMED—A new representative for Specifide, Inc., Indianapolis, has been named by John O. Beasley, president. He is Paul M. Pickard of Montgomery, Ala., who will represent the company in Alabama, Georgia and northern Florida. Mr. Pickard is a graduate of the University of Alabama and was formerly with Cargill, Inc.

energy ration, it is quite obvious that a feeder could afford to pay considerable extra money for the more efficient feed.

Vitamins

The vitamin requirements believed to be required for breeding hens for optimum performance are very conveniently outlined in the National Research Council publication "Nutrient Requirements for Poultry," published in 1954. The National Research Council lists requirements for the various vitamins, and it is the responsibility of the feed formulator to add a margin of safety for the various vitamins in the finished ration. This margin of safety will vary with many factors, including the opinion of the formulator. The all-mash breeder ration listed on the Formula Chart for Chicken Mashes published by the University of Minnesota poultry department carries approximately 100% excesses of vitamins A and D and about 30% excesses for riboflavin and pantothenic acid over the suggested requirements.

Interesting research recently performed by Cornell and Rutgers workers studied field situations where chicks were dying in large numbers soon after hatching. Surprisingly, the administration of a vitamin mixture to the listless newly-hatched chicks resulted in correction of the problem. Further experiments indicated that pantothenic acid was the deficient vitamin, even though the breeding rations used apparently contained enough of this vitamin by NRC Standards. Therefore, it is certainly essential to fortify our breeding rations with this important vitamin. The hen's requirement of pantothenic acid for satisfactory hatchability is considerably higher than that for good egg production.

Minerals

There has been a genuine lack of research reported during the past 10 years dealing with the mineral requirements of hens. Calcium, phosphorus, manganese and salt have been routinely considered in feed formulation in line with the National Research Council recommendations. The necessity for other minerals is a

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dark spot in nutrition of the breeder hen. Some manufacturers use trace mineral mixtures, but even these may not be supplying possible mineral deficiencies.

Recent work showing that the ash of unidentified factor supplements produce growth responses in a manner similar to unknown growth factors illustrates the importance of further research in the mineral nutrition of the breeding hen.

Aside from the known nutrients which go in a bag of feed, there are at least two other important phases to be considered in adequate feed formulation. These are unidentified factor supplementation and antibiotic usage.

Because of various research publications in recent years, it has been assumed that hens require sources of unknown factors in their diets. Notwithstanding these reports, Minnesota investigations on the use of dietary unidentified factor supplementation for breeding hens have shown no improvement in egg production or hatchability due to these factors. The answer to the question of why unknown factor supplements improve hatchability or egg production under certain conditions only may involve an interrelationship with the environment. It seems quite possible that some low-potency infectious agent controls the requirement for unidentified factors.

The inter-relatedness of antibiotics with level of infection is becoming well recognized. It does not seem desirable to routinely recommend the use of a high level of antibiotics in breeder rations. However, the use of high levels of antibiotics certainly has a place under many situations where performance is suboptimal or when chronic respiratory disease is a problem. The inability to make a solid recommendation in this regard throws added weight to the integrity of the feed manufacturer in letting his customer know whether other customers in the general area and under similar circumstances are profiting by the use of antibiotics.

General Consideration

Our status in breeder hen nutrition depends on whether we look back at our accomplishments or look ahead to the future.

In the former instance, we may take comfort in the fact that much has been learned and that we are able to compete successfully with other phases of agriculture.

In the latter instance, however, we see that many accepted beliefs must be reinvestigated in line with current feed formulation practices and that present voids in knowledge must be attacked vigorously.

Sunrise Milling Corp. Chick Meeting Jan. 9

SOMERVILLE, N.J. — A "chick meet" has been planned by the Sunrise Milling Corp., Somerville, N.J., for dealers and poultrymen at 7:30 p.m. Jan. 9 at the Somerville Inn near here.

Dr. Hans Fisher, Rutgers University, will discuss "Chicks and Their Stress Periods"; Dr. Clarence S. Platt, Rutgers University, will talk on "Chicks for New Jersey Poultrymen"; and Dr. Robert F. Miller, Merck & Co., will speak on antibiotics.

The three speakers will participate in a panel discussion which will be moderated by Irving Lintner, secretary and nutritionist, Sunrise Milling Corp.

Cage Operations In Iowa Increase

AMES, IOWA—The practice of keeping laying hens in individual cages is becoming more popular in Iowa, says Paul Walther, extension poultryman at Iowa State College.

Mr. Walther estimates that there are now more than 350 cage layer operations in the state, with flock sizes ranging from 600 to 5,000 hens.

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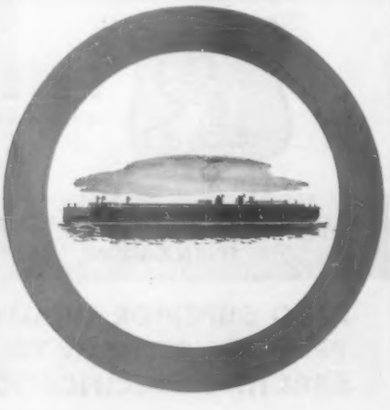

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Scholarship Selection Committee Meets

CHICAGO — A special committee met in Chicago Dec. 20 to select 20 outstanding undergraduate students who will receive $250 scholarships awarded by Chas. Pfizer & Co., Inc., under a program aimed at reducing the tremendous annual loss from livestock and poultry diseases.

J. Jerome Thompson, manager of Pfizer's Agricultural Division, pointed out that deaths due to diseases and parasites alone may have reached a half billion dollars in 1954—the latest year for which official figures are available.

"We are launching this new program for youngsters with an outstanding background in 4-H Club work with a view to making some contribution toward paring down this staggering waste of the farmer's time, labor, feed and capital goods," Mr. Thompson said.

"It is our thought," Mr. Thompson said, "that by encouraging young people to remain in extension work—particularly in the field of animal health—we will strike at the root of this problem. That is why we plan at this time to continue the scholarship program over a period of years."

The selection committee, representing federal and state Extension Service personnel, may have to choose between as many as four nominees from each state which offers one or more extension courses.

Formal presentations to the first group of winners probably will be made by Pfizer representatives in the students' home states soon after the first of the year.

Kraft Bag Appoints Sales Representative

NEW YORK — The Kraft Bag Corp., manufacturer of multiwall shipping sacks, has appointed Ted Belfit as sales representative in Pennsylvania, New Jersey and the Metropolitan New York area, taking over duties formerly handled by John Wallace.

Mr. Belfit is a graduate of Dartmouth and was for 4 years a member of the faculty at Columbia University. He started his selling career with the Gummed Tape Division of Gilman Paper Co., of which Kraft Bag Corp. is a wholly-owned subsidiary. The company operates multiwall bag plants in Gilman, Vt., and St. Marys, Ga.

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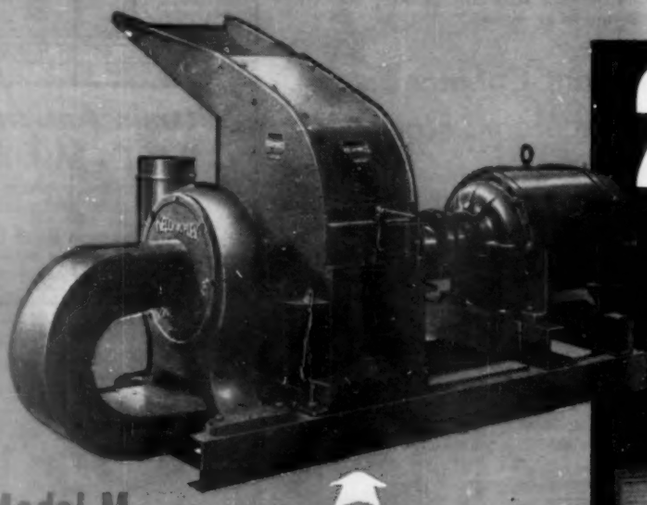

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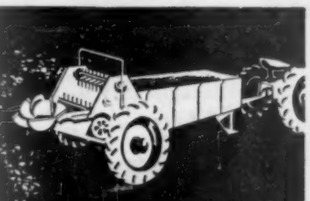
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Here is the plant of the New England Grain Co. at Portland, Maine. In the foreground are two vans equipped with Sprout-Waldron Feed Piper units for bulk delivery. In the background is the new feed mill, showing receiving elevator and piping for the pneumatic unloading system.

New Automatic Feed Plant Culminates 40 Years of Progress for Maine Firm

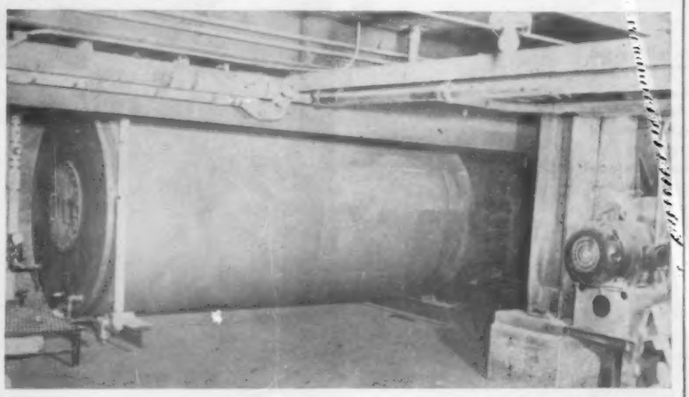
The new automatic feed plant of the New England Grain Co. at Portland, Maine, represents the culmination of 40 years of progress.

The new mill went into production in 1956, 40 years after the business was started as a small retail grain store by the late Leon Herman. The company grew, and today the modern push-button plant produces poultry and other feeds for farmers in Maine and other parts of New England.

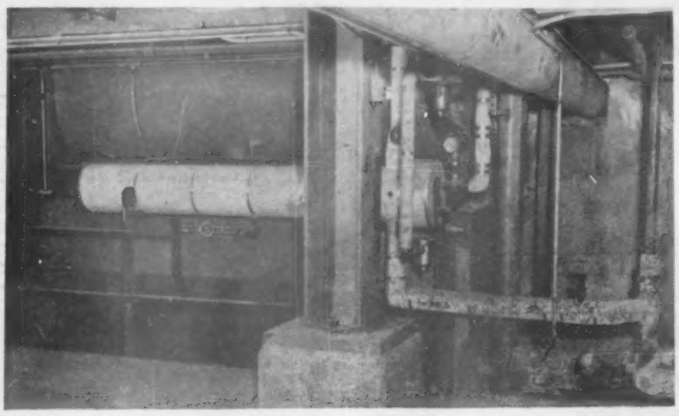
Actually, the history of the company closely parallels the growth of the formula feed business, for prior to the start of New England Grain in 1916, little manufactured feed was being produced.

The company is now operated by Irvin D. Herman, president and son of the founder, and Maurice B. Kane and James B. Ross, sons-in-law of the late Mr. Herman.

The new plant's daily capacity is 200 to 250 tons considering the production of all types of formula feeds, including feeds in both pelleted and mash forms. In line with the extent of poultry production in Maine, the



Shown above is one of two 3,000-gal. fat tanks in the basement of the mill. The fat is held in these tanks at 120° F. before being pumped through heat exchangers which raise the fat temperature to 200 at the rate of 500 lb. per minute. To the right is shown the products fan used to elevate material 90 ft. from the attrition mill to collector in the head house over 50-ton corn meal storage bins.



This is a view of the 2-ton horizontal mixer and surge bin. The picture also shows the animal fat pump, heat exchanger and steam controls. At the top of the picture is partial view of collecting screw. This screw is able to collect feed from 14 overhead bins for recirculation through bucket elevator to head house.

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largest part of the mill output is poultry feed, but livestock and dairy feeds also are manufactured.

Push-Button Mill

The new mill is called a push-button mill, and rightly so. Practically every function of the production process is electronically and automatically controlled from a central control panel. In fact, there are two panels. One controls the receiving and distribution of grains and other bulk ingredients. The second panel, completely automatic, controls batching, mixing and handling of all formula feeds.

The plant was designed and engineered by Sprout, Waldron & Co., Inc., Muncy, Pa., and his company also furnished all the feed milling equipment, including grinding, mixing, pelleting and other machinery, and the pneumatic unloading system.

Of steel, concrete and aluminum, the construction of the mill building —actually on and under water in its location at Hobson's Wharf on Commercial Street — entailed unusual architectural design. Steel piling more than 70 ft. deep support the 95 ft. high tower, and at high tide the basement of the plant is below the surface of the sea.

Storage Capacity

Storage capacity for grains is in excess of 600 tons. Bulk feed component storage is available in the amount of 600 to 800 tons. These storage capacities, along with 80 to 100 tons of finished feed storage, assure adequate continuous production operation, company officials note.

A Pneu-Vac unloading system is used to deliver all bulk ingredients from cars and trucks to storage bins. Each bin is equipped with high and low level indicators, showing whether a certain bin is filled or practically empty and notifying the operator by a red light and alarm.

Grains flow by gravity over a magnet to an attrition mill, and the ground product is transported by air to the top of the mill and discharged through a collector to a pre-determined holding bin.

Automatic Batching

The mixing operation is controlled through a Richardson Scale Co. automatic electronic batching panel, with any given formula pre-set on the panel. Located under each ingredient bin is a specially designed screw feeder, each driven by a separate motor, these motors interlocked through the panel to the ingredient selector switch. These feeders, in the sequence selected, deliver each ingredient in exact weight to the hopper of a dial type hopper scale. A dump hopper is provided for minor ingredients not stored in bulk bins. When all ingredients have entered the scale hopper, an air-controlled gate automatically opens and discharges the product to the horizontal mixer. In the meantime, minor ingredients have been placed in the dump hopper, and approximately 15 seconds after the mass of feed has been discharged to the mixer, an air-controlled gate on the dump hopper automatically opens, discharging to the mixer.

Mixing time also is controlled by the batching panel. At the end of the pre-determined time, air-controlled triple discharge gates automatically open and the batch is dis-

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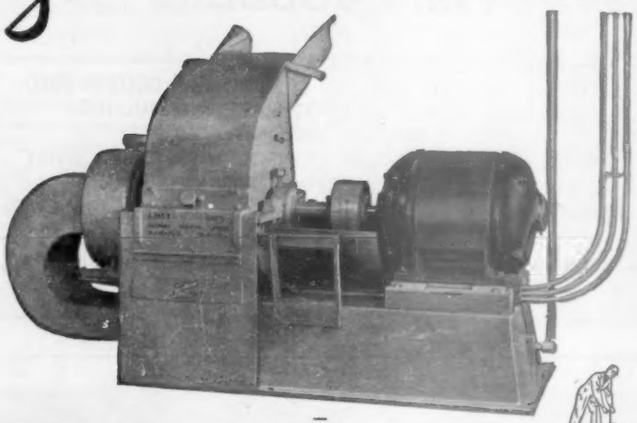

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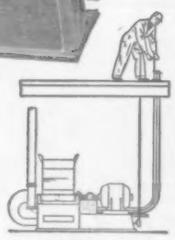

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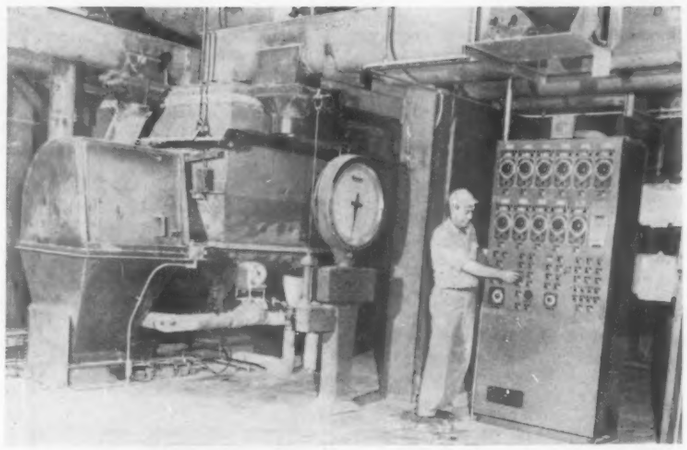

This picture shows the complete weighing operation, including the electronic batching and mixing panel, scale hopper and dial, automatic fat injection system and electronically controlled premix hopper. Overhead is a partial view of collecting screws feeding to the scale hopper. To the right of the panel in the picture is another panel which controls the Pneu-Vac unloading system for handling bulk ingredients. Incorporated in this panel are electric bin level signaling devices, air gates on distributing screw, air gates on mill, collecting screw controls and all pump controls.

charged to a surge bin. During the mixing cycle, another batch is being moved from bins to scale.

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Joseph A. Morris of Spencer Kellogg Dies

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Mr. Morris joined the Kellogg organization in February, 1928, as assistant to Daniel J. Healey, now vice president in charge of the eastern sales division, who at that time was district sales manager and in Decemdelphia territory. In October, 1929, he was transferred to the company's office in Boston, as assistant to the district sales canager and in December, 1934, was returned to Philadelphia to assume the duties of district sales manager.

Mr. Morris, who was a native of Philadelphia, is survived by his mother, Mrs. Mary Wohlfarth, and two sons, Robert R. and William J. Morris.

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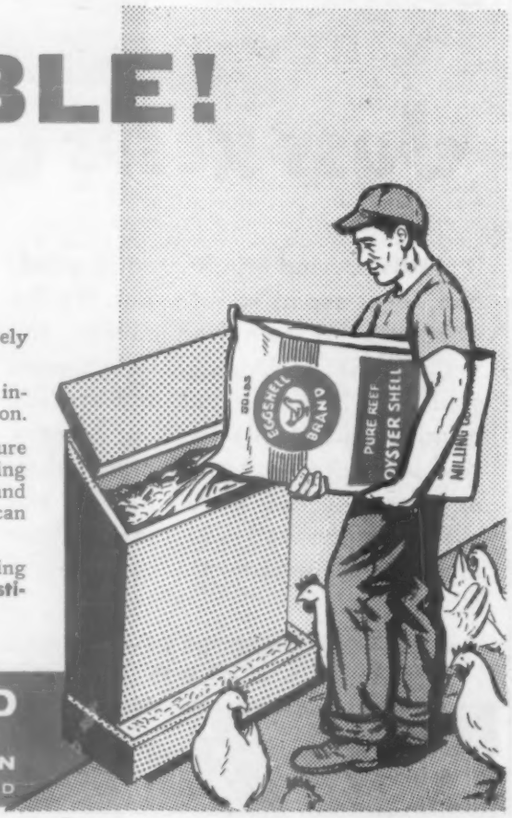

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Feed Men Hear Talks on Tech School Progress, College Research Findings

KANSAS CITY—About a year ago, the feed technology building and pilot mill at Kansas State College were dedicated. But that was only the beginning of the relatively new feed tech program at the college at Manhattan, Kansas.

There still is a real job to be done in encouraging more students to enroll in this program and prepare themselves for careers in the feed and allied industries. Also, while opportunities are great, it is not yet possible to engage in extensive research at the college on feed production problems.

This and other information on the feed technology program at Kansas State was presented at the recent Midwest Feed Production School in Kansas City by Dr. Glen H. Beck, director of the Kansas Agricultural Experiment Station.

In addition to his talk, the feed men present heard reports on two pieces of research by graduate students—a study of distribution of micro-ingredients in feeds and a study of the effect of added fat on pellet production.

Actually, as noted by Dr. Beck, the feed tech training started in 1953, with 29 students enrolled. Enrollment rose to 43 in 1955, the year of the dedication of the mill and other facilities made possible by industry contributions of money and equipment. Now, this year, there are 68 undergraduate students and three graduate students in the feed tech program.

However, Dr. Beck said, this is still too low to promote maximum efficiency in the use of staff and facilities.

Encourage Enrollment

As others have noted, industry responsibility did not end with the construction of the building and mill. And Dr. Beck emphasized that enrollment should be encouraged in the feed school. Help is needed, he said, in calling the attention of high school, and even grade school, students to the program. At the same time, the emphasis should be on recruiting good students.

At this stage, no major changes in the feed tech curriculum are indicated, Dr. Beck continued.

In connection with the training program, he explained that the feed tech school is not a trade school. If the only purpose were to teach a trade, the program would be a failure. The program should develop skills, but as with all college education, the training also should help develop good citizenship and leadership abilities.

In addition to the training for feed tech students, it is being recommended that the staff and facilities be used for a course for agriculture students on feed processing problems, thereby familiarizing them more with feed manufacturing.

Dr. Beck pointed out that, in this new field of education, there are no text books or laboratory manuals available. Also, more staff is needed for teaching and research. However, he said, these problems can be overcome.

Discussing the research phase of the program, he said that there is not much opportunity for action here yet. The staff is small, and laboratories are not yet completed, so the school is just at the stepping-off point on research. The potential for feed production research is great, however. The program is expected to be primarily operational and will not be concerned with nutrition research, although many cooperative projects with nutritionists will be developed.

Clarence Creger, a graduate student at the college, told the feed men of his research work on the distribution of micro-ingredients in feeds.

Emphasis should be placed on particle size in trace ingredients, he said. A small size is needed.

As part of the research, a tracer was added to a carrier in a premix, and a tracer was added to the whole mix directly. There was no difference in results in this case. More work is needed, Mr. Creger said.

He also pointed out that fundamental research on mixing is scanty.

A study was made on the use of a dyed salt as a tracer. The drug nitrophenide also was used. Studies were made of mixing results at times ranging from ½ minute up to 20 minutes, with distribution throughout the mix determined.

It was found that salt became distributed in a mix earlier than nitrophenide. At the same time, there was evidence that dense granular materials such as salt tend to separate from the mass of the mix as mixing time is extended. Light materials, it was found, do not separate once they are mixed, though it takes longer for them to become properly distributed.

The study, Mr. Creger said, shows that different ingredients reach a maximum mix at different times. This may indicate that there should be different sequences for adding ingredients. Again, more research is needed.

Fat in Pelleting

Harold Poe, another graduate student, reported on his work on the effect of added fat on pellet production. A small amount of added fat will increase pellet production, he pointed out.

The study was made with a 20% laying ration with added fat. Data included information on power use, amounts of pellets produced, time required. Fat was added to the ration at 1, 2 and 3% levels.

The results showed the lubricating qualities of fat in pelleting.

It appeared with the ration used that pellet production increased through the 2% level as a linear function of the fat addition, or in direct relation with the amount of fat added. Going higher than 2%, production continued to increase, but the results began to show a diminishing return.

Power requirements were reduced with added fat, with a 25% decrease at the 3% fat level.

Conclusions from the study, Mr. Poe said, were that fat gives lubricating qualities in pelleting; production was increased 34% and power was reduced 25%; the law of diminishing returns expressed itself between the 2 and 3% levels.

Feed Mills Continue To Improve Facilities

Many feed mills and elevators continue to install new machinery to improve their facilities.

The mill modernization and improvement trend is evident in a report from the Bryant Engineering Co., Port Huron, Mich., manufacturer of feed mill machinery.

The report tells of recent installations of new equipment by 48 firms in 11 states—Iowa, Indiana, Ohio, Michigan, Missouri, Minnesota, Wisconsin, Pennsylvania, North Carolina, Illinois and South Carolina.

The machinery includes hammermills, corn shellers and crushers.

Congress to Be Asked for Fast Action on Export Funds

By JOHN CIPPERLY
Feedstuffs Washington Correspondent

WASHINGTON — The badly-depleted bank account of the agricultural surplus disposal program will require the immediate attention of the incoming Congress next month.

The Agricultural Trade Development and Assistance Act of 1954—commonly known as PL 480—provides a basic amount of three billion dollars. The programs of the Foreign Agricultural Service, the U.S. Department of Agriculture unit disposing of the commodities, have virtually exhausted these funds.

Within the government there is some question whether there remains 2 million or 50 million dollars. One top official said the amount was really immaterial since neither sum was consequential in terms of recent exports.

Rough tabulations of past FAS activity would indicate that two million dollars was closer to the actual amount.

This amount must be increased by other money which FAS will obtain from previous procurement authorizations where the foreign nation did not purchase the full amount of its authorized buying power. This sum plus gains of dollars from the purchase of Commodity Credit Corp. holdings of foreign currencies by other U.S. agencies operating abroad, might pull the cash balance of FAS up to the 50 million dollar level.

But against these uncertain gains must be charged another cost factor on which USDA does not seem to have resolved.

It is pointed out that the USDA determination of its freight payment policy has been unrealistic in terms of the going market for ocean bottoms. The USDA policy in conforming to the existing law has been to require the foreign buyers to use a 50-50 division between U.S. and foreign bags in lifting its supplies of the U.S. agricultural surpluses it obtains. While that phase fully meets the requirements of the law, it is faulty in another respect.

The USDA, in fixing its freight allowance, has decided that it will not pay more than the ceiling for ocean freight of $19.50 per ton fixed by the Federal Maritime Board for U.S. charters. That price policy clashes with present world freight charges of about $24 ton. It is suspected that this gap between the top USDA price and the actual world market may be delaying liftings by foreign buyers, who in many instances are actually unable to finance U.S. flags at the higher level of rate with their own dollars.

If the USDA is compelled to recognize the economic facts of the world ocean shipping rates, it will have to boost its maximum payments into line with the world market, thereby seriously depleting the uncertain PL 480 balance.

In any event the bank account of the surplus disposal agency is badly dented and certainly will require additional funds from Congress promptly if there is to be no vacuum in the export pipeline by late winter.

No Halt in Export Flow

Despite this condition it must be noted with great emphasis that there will be no abrupt halt to the export flow of agricultural commodities. At the present time there are many large programs for the export of grain and vegetable oils which have been previously authorized and concluded with the foreign countries and the money to finance such exports has been earmarked and set aside at USDA. Included are the programs for India, Pakistan, Yugoslavia and Spain.

For the pending deal with Brazil, the money has been set aside against the successful conclusion of negotiations between Brazil and the U.S.

These cases represent buying power of three hundred or more million dollars which will continue to move in steady volume impeded only by tightness of ocean shipping facilities, ocean freight allowance discrepancies or Pacific Northwest boxcar shortages.

Other Alternatives Available

Trade sources have expressed disagreement with the close balance of the account, remarking that FAS has some alternative in other provisions of PL 480. For instance, when the last session of Congress increased the availability of money to USDA to three billion dollars, at the same time it increased the funds available to the President for emergency and disaster relief to friendly nations and to friendly peoples in other nations. Such distribution of agricultural surpluses would be made on a grant basis and the present law provides the President with a 500 million dollar fund. Some part of that sum has already been disbursed, but it is said there is still substantial buying power from CCC surplus stocks remaining.

That all or any part of this money could be made available for purposes to which USDA has issued procurement authorizations under Title I of PL 480 is a legal problem which does not seem to have been resolved. Until such a legal determination is made it is highly speculative that this potential buying power will become a temporary prop to the limited amount of money still available to FAS to issue new procurement authorizations, where money has not already been set aside. This definition does not include pending negotiations with such nations as Peru, Colombia and Chile where there will be some scattered authorizations for the procurement of vegetable oils.

Italy has asked for another procurement authorization of approximately 20 million dollars to buy vegetable oils. According to trade sources the Italian supply-demand balance sheet clearly indicates that these commodities are badly needed later to sustain domestic consumption on a minimum requirement level.

The attitude of Congress in speeding a replenishment of USDA funds for the financing of U.S. agricultural surplus exports is not easy to ascertain at this time. With some few exceptions Congress has never revealed any willingness to rush through appropriation bills. The most pessimistic outlook for the authorization of new money for PL 480 purposes would be between six to eight weeks after Congress convenes. However, in the present tense world political situation it may be that congress will rush a measure through increasing the funds now available for PL 480. In that event the possible vacuum in the export pipeline of agricultural commodities would be prevented.

The greatest impact would occur in vegetable oil exports, since many of the large grain export programs have already been confirmed. They are so heavy in many instances that port facilities are barely able to carry the load.

C-G Grain Co. Shifts Management Personnel

TOPEKA, KANSAS—Several personnel changes in elevator management positions within the C-G Grain Co. have been announced by D. E. McKee, general manager.

W. E. Armstrong, manager for the grain company at Atchison, Kansas since July, 1955, will move to Ft. Worth, Texas, to manage the new elevator being completed for the company there. He will have an office in the Meacham Bldg. in Ft. Worth, to be opened about Jan. 1.

William F. Allison, Atchison, will join the C-G firm to replace Mr. Armstrong as Atchison manager.

Harry O. Kampschroeder, a longtime C-G employee, has been promoted to assistant manager at Topeka.

W. E. Armstrong was born in Frost, Texas. He graduated from Baylor University "cum laude" in 1931. He started in the grain business with the Waco Mill & Elevator Co., since that time has spent his entire career in the grain business. His work with General Mills, Inc., took him to Oklahoma City, Enid, Wichita Falls, Amarillo, Great Falls, and Philadelphia. He was in the Navy during the war, attaining the rank of lieutenant commander.

After graduating from Colorado University, William F. Allison joined the Blair Milling organization, being there some 14 years in the bookkeeping and traffic departments before becoming assistant to the manager. His later experience included some time with Goodlander Mills, Flour Mills of America at Fort Scott, Kansas, Fairmont Foods of Omaha and recently as manager of the Humboldt Elevator Mills at Humboldt, Kansas.

St. Regis Paper Opens Testing Center

NEW YORK—The St. Regis Paper Co. has established an adhesives laboratory at the Kraft Center, Pensacola, Fla., for the development, manufacture and quality control testing of all St. Regis bag factory adhesives in the U.S., Puerto Rico and Canada.

Plans also call for the laboratory to furnish formulations, test reports and technical advice to the company's licensees, and to maintain continuous adhesive research and development program.

St. Regis converts an average of 250,000 lb. dry products into more than 100,000 gal. finished adhesives each month.

Because of the variety of bag equipment at Pensacola, it is possible to conduct pilot trials with adhesives which will be used on bag equipment at other plants. These trials can be conducted before substantial amounts of materials are shipped to other plants for extended trials.

Actual testing of adhesives includes checks on the binding time, water resistance, viscosity, solids, pH value and color. Checks are also made on the acid and heat resistance on pasted portions of all bag samples submitted.

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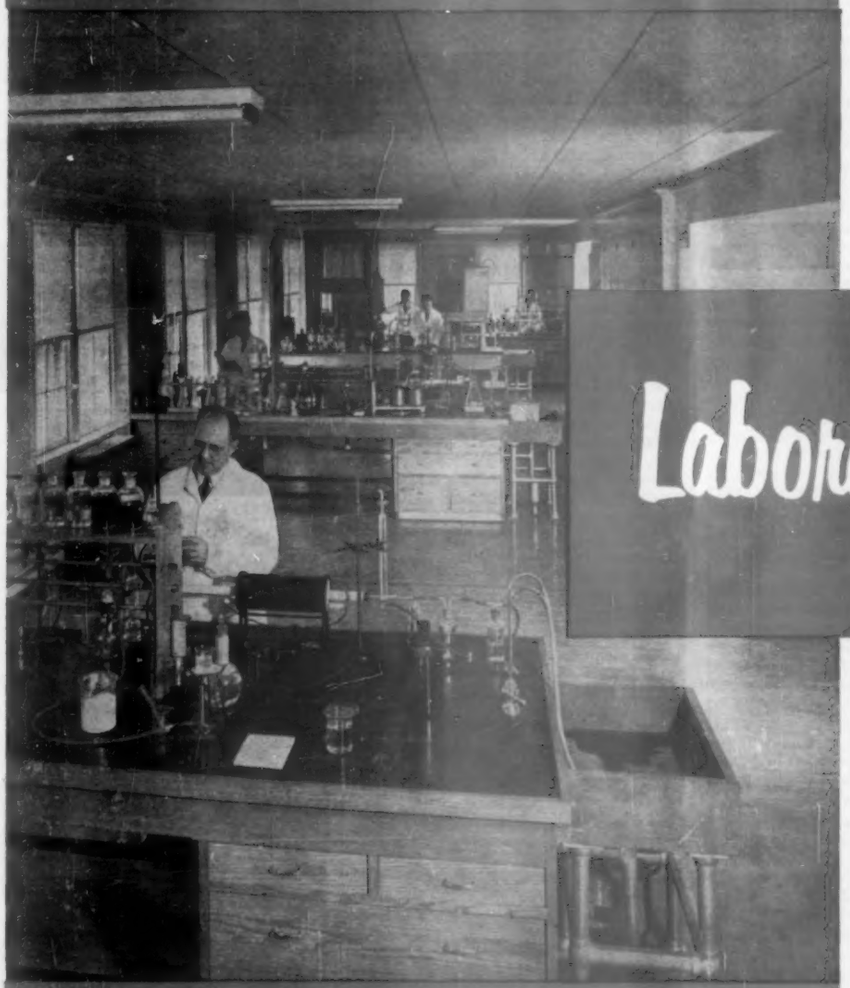

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New Legislation For Corn on USDA Agenda

WASHINGTON — "We shall propose new corn legislation as a first item of business for the coming session of Congress," Ezra Taft Benson, secretary of agriculture, said Dec. 21. "The effect of our proposal will be to give corn farmers a workable program."

The secretary's statement followed a period of intensive study within the U.S. Department of Agriculture concerning the situation which confronts corn and livestock farmers as a result of the outcome of the recent corn referendum. In the Dec. 11 referendum, 61.2% of the farmers voted for a change from present acreage allotments to a program which would allow greater freedom to grow corn but at a slightly lower price. The vote fell short of the two thirds required by law to put the new program into operation.

"Corn farmers face an impossible situation," said the secretary. "As matters now stand, acreage allotments must, under the law, be reduced 14% below the level initially announced for the 1956 crop and 27% below the level finally enacted by the Congress. It is 36% below the acreage grown during the years 1952 to 1956. This cut is so sharp that there will be practically no compliance. Furthermore, few farmers will be able to take the even greater cut which would be necessary to come into the soil bank, which many of them wish to do. Consequently, with virtually no soil bank and no corn program, corn production could be excessive and corn prices very low. Livestock production might be unduly stimulated. The whole feed-grain livestock balance might be upset."

The acreage allotment program has not worked, Mr. Benson said. "In the past, less than half of the corn farmers have complied with their allotments. Marketing quotas will not work for corn, since about three fourths of the corn is not marketed as corn but is fed on the farms where it is grown."

"The allotment program brings about increased stocks of corn, which under the law must result in lower acreage allotments and lower support prices. This law leads to an upward spiral in stocks and a downward spiral in price. Acreage allotments continue to shrink and compliance continues to drop," he said.

"The base-acreage program, for which a majority of the farmers voted, would have given promise of much greater compliance, an effective soil bank, and a better feed-grain livestock balance.

"There have been proposals to patch up the old allotment program and continue it. The time has come to recognize that this program is a failure and to move in the direction of workability," Mr. Benson concluded.

CORN PROBLEM

(Continued from page 1)

price support if they placed 15% of their acreage in the soil bank.

The corn problem arose when the base acreage plan for supports, with a 51-million-acre base for corn under the soil bank legislation, failed to win sufficient support in the recent corn grower referendum, and growers were left with the acreage allotment plan and a total allotment of 37 million acres.

As Things Now Stand

As things now stand, it appears that for all practical intents and purposes, virtually none of the commercial corn area will be eligible for support next year. Few persons familiar with loan programs believe that corn farmers will be willing to comply with the extremely low acreage allotment for that crop in 1957. Also, corn acreage cannot be eligible for soil bank payments unless such acreage allotment compliance is forthcoming.

The USDA dilemma is found in the complexities of basic economics, salted with political considerations looking to the 1958 congressional elections. Returning Republican congressmen are speaking out in no uncertain terms, condemning the Benson handling of the farm problem as a cause of defections among voters in the farm belt. The GOP politicians also understand that as the Eisenhower tenure runs out and the vote-getting capacity of the President diminishes, it may be even tougher in 1958 to hold the thin-margin seats retained in the last campaign.

New Hog Increase Seen

The recent pig crop report indicates that the drop in pig production has leveled off. Hog prices are considered good and, with reduced slaughter ahead for some time, prospects are good; also, feed grain and vegetable protein supplies are large and relatively low in price.

All of this, according to USDA economists, adds up to the starting point of a new increase in hog numbers which would culminate in 1958 with new high levels of hog marketings. This might mean in a sensitive congressional election year that hog prices would again be down to low levels.

The USDA economists say that the combination of low-cost feed and favorable swine prices can mean only one thing—a renewed advance in hog numbers.

One school of thought at USDA would accept the easy escape and adopt the Humphrey proposal of a 49-million-acre allotment base with price support conditioned on contributions to the soil bank of 15% of that acreage allotment.

"Bold" Approach

The other extreme at USDA favors a "bold" attack on the price support problem for corn with this as the time to make a shift away from the present support concept and the perennial struggle over high or low levels of support, by accepting the status resulting from the recent corn referendum. Such advocates believe that a low level of supports on a small acreage allotment base would dissuade farmers from expanding corn production and that a shorter corn crop would discourage heavy expansion of hog numbers.

It is generally believed in USDA economic circles that since the corn support program has never been effective without marketing quotas, farmers generally fed out corn to animals when grain was available on the farm.

If this conclusion is correct, the present status of the law might be an effective check on hog production expansion for the next two years.

At USDA, there is an ever-present awareness that the soil bank structure is at best tottering.

Its effect on curtailing wheat production has been faulty; it has been more of an oblique approach to crop insurance than the original soil bank concept. It has been a political instrument rather than an avenue to reduction of production of surplus crops.

Unless Congress adopts some amending legislation at the outset of this session, even many of the wheat contracts of the acreage reserve phase of the soil bank made for the 1957 crop are endangered and probably invalid, since on combined wheat-corn farms, failure to comply with acreage allotments for either crop would void any previously made contract for either crop.

One USDA official expressed the view that this was the time for a sweeping amendment to the soil bank act, requiring that all grains, particularly the small grains competitive with corn, be brought into soil bank coverage—in effect, a cross-compliance requirement—so that reductions in corn or wheat acreage could not be by-passed by expansion of acreage in oats, barley, rye or grain sorghums.

This attitude takes into consideration the increasing importance of grain sorghums produced from hybrid seed, making that a crop a potentially much more important factor.

Possibly the most drastic remedy to the approaching hog production build-up problem would be outright acceptance of the corn referendum. This would, in effect, dump the corn support program, but if that were to happen, the logical thing would be to end supports on competitive grains at the same time.

Few persons believe that the administration could make that decision and stand off the probable attacks from Congress.

Another view is that the nation needs an annual reserve of at least 1 billion bushels of corn as drouth insurance. This view rejects the price control theory as a means of building up such a reserve but prefers to see the government act now to seal off its corn surplus and replenish and rotate stocks from future crops to maintain an insurance corn balance.

There is some speculation that the next session of Congress may see administration recommendations of plans which approach the "bold" or even "bolder" views.

The drive to come forth with some radical changes in the present support program rests in the hog situation and the possibility of a heavy build-up of numbers and low prices at the next election time.

Protein Oil Meal Futures Prices Up

MEMPHIS—Protein oil meal futures prices Dec. 26 closed higher than one week before, with light trading through the period on the Memphis Board of Trade.

Soybean oil meal turned up as the result of new trade buying and speculative buying, which followed liquidation, declining of soybeans and pre-holiday dullness.

All boards in soybean oil meal and cottonseed oil meal were influenced upward by the new rail increases effective Dec. 28. Dealers were trying to buy and get meal moving before that time.

Cottonseed oil meal trading was principally in December solvent. The market moved up especially in the December and January options. The demand for nearby solvent cottonseed oil meal has been sufficient to take care of the production. Demand was slow in old process cottonseed oil meal.

Dealings for the week included 10,300 tons of unrestricted soybean oil meal, 400 tons of Eastern Trunk Line soybean oil meal, 3,800 tons of solvent cottonseed oil meal and 100 tons of old process cottonseed oil meal.

Decrease in Egg Settings Cited

KANSAS CITY—A recent American Poultry & Hatchery Federation bulletin called attention to a decrease in broiler egg settings during the week ending Dec. 8, as reported by the U.S. Department of Agriculture for 22 reporting areas.

Broiler hatcherymen were congratulated on the cutback, which represented an 11% decrease from a year earlier and a 20% reduction from the previous week, and they were praised for the cooperation in a voluntary cutback which has been urged as a means of ending the broiler overproduction problem.

Subsequently, however, broiler egg settings increased again. Settings during the week ending Dec. 15 were back up ahead of the previous two weeks and larger than a year earlier.

Canadian Railways Get Freight Rate Increase

TORONTO—The Board of Transport Commissioners has authorized Canadian railways to increase freight rates by 4%, effective Jan. 1. This 4% increase is in addition to the 7% interim increase granted the railways last June in response to their application for a 15% increase, following the granting of wage boost and other benefits to their 150,000 non-operating employees.

In its latest judgment, the board described the newly-granted increase to 11% from 7%, as a "measure of additional interim relief pending final determination of the application." It is possible, therefore, the railways may get a further rate increase, perhaps to the full 15% they originally requested. This point may be cleared up in the board's judgment which is to be issued before Dec. 31.

The latest increase will apply on grain moving in western Canada. The board last year tentatively allowed a 10% increase on rates on grain moving within the west for domestic consumption. This later was suspended and replaced by the 7% increase last June. This will now be swelled to 11% by the 4% just granted.

The new order does not affect grain shipped for export from western Canada, as these rates are held at low rate levels by the Crowsnest Pass Statute of 1925. The order does not apply either to competitive rates, the lower-than-usual charges set by the railways to meet competition from truckers and water transport.

Alfalfa Facilities on Memphis Site Planned

MEMPHIS — A second expansion step was announced by Grain Elevator Warehouse Co. when it signed a 10-year lease with the Memphis and Shelby County Port Authority for a tract of approximately nine acres on President's Island. Earlier in the month, Grain Elevator Warehouse announced the signing of a 15-year lease with the Pennsylvania Railroad in Toledo for a 4-acre tract.

In both instances, Grain Elevator Warehouse will lease the facilities to the National Alfalfa Dehydrating & Milling Co., Lamar, Col., and other companies in the alfalfa industry, for the storage and transshipment of dehydrated alfalfa and pellets.

Grain Elevator Warehouse plans to construct a $100,000 grain storage warehouse on the Memphis site, which also is in the center of other grain storage warehouses. The tract is located on a railway siding and also fronts a deep-water channel leading to the Mississippi River. This places it on the inland waterway.

A. V. Phillips of Bemis Bro. Dies

ST. LOUIS—A. V. Phillips, retired director and a veteran of 62 years service with Bemis Bro. Bag Co., died recently following complications resulting from a fall. He was 88 years old.

Mr. Phillips retired from active service and resigned from the Bemis Bro. board of directors in 1953. He joined the firm in 1891 at St. Louis, and was made a director in 1911. He was a vice president from 1912 to 1946 and headquartered most of the time in Boston. He made numerous trips to India in connection with burlap supply, and from 1925 to 1932 spent much of his time there.

Mr. Phillips was instrumental in founding the Angus Co., Ltd., in Calcutta, established to manufacture special, extra quality burlap. During more than 20 years that Angus Co. continued under Bemis management, he served as director, managing director and chairman of the board. The Angus Co. was sold to British interests in 1942.

THE FEED MARKETS

★ ★ ★ ★

Demand — Supply — Trends — Prices

Quotations on feed ingredients shown in these and adjoining columns are wholesale prices, per ton, bagged, for prompt delivery, unless otherwise noted. They are the latest quotations available from Feedstuffs correspondents and are not necessarily those in effect on date of publication. The prices represent fair average trading values and do not necessarily represent extreme low or high levels at which individual sales might have occurred. A descriptive summary of supply and demand factors prevalent in the feed market appears on page 2.

A AND D FEEDING OIL

Chicago: Demand fair; supply moderate; straight A feeding oil, with 10,000 units vitamin A per gram 9@11¢ a million units of vitamin A, l.c.l., packed in 55 gal. drums, f.o.b. Chicago; drums included.

New York: Trend steady; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 13½@15½¢, 1,500 A 15½@17¢, 2,250 A 17½@20¢, 3,000 A 19½@21¢; 600 ICU, 1,500 A 16@18¢, 2,250 A 18@19½¢, 3,000 A 20@21½¢; f.o.b. Massachusetts, New York or Pennsylvania.

Minneapolis: 10,000 A 38¢ lb.; 300 D, 2,250 A 21½¢ lb.; 300 D, 1,500 A 19½¢ lb.; 300 D, 750 A 17½¢.

Seattle: Demand slow; trend steady; supply good; 300 D, 2,250 A 22¢ lb., 300 D, 1,500 A 19¢ lb., 300 D, 750 A 17¢ lb., all ex-warehouse drums included.

Boston: Demand fair; supply adequate; 600 D, 1,50o A 18¢; 300 D, 2,250 A 17¢; 300 D, 1,500 A 15¢; 300 D, 750 A 14¢.

ALFALFA MEAL

Philadelphia: Demand slow; supply fair; 17% dehydrated $74.

New Orleans: Demand fair; trend steady; supply ample; 17% dehydrated, vitamin A guaranteed $72@74.50; non-guaranteed $65@67; 15% $62@64.

Cincinnati: Demand fair; trend steady; supply adequate; 17% dehydrated, 100,000 vitamin A $74.15@75.15; 17% dehydrated, no A $64.15; 13% fine suncured $40.50@60.

Chicago: Demand slow; supply tight; 17% dehydrated, with 100,000 units vitamin A guaranteed $68@68.50; 17% with no A guaranteed $60; 13% suncured $51@51.50.

Omaha: Demand good; supply becoming short; 17% dehydrated, 100,000 A, papers or burlaps, January shipment $65.

Memphis: Demand quiet; trend steady; supply adequate; dehydrated, 17% protein, guaranteed 100,000 units vitamin A $68.75.

Buffalo: Demand poor; trend steady; supply fair; $76, sacked, Boston.

Seattle: Demand slow; trend steady; supply good; 15% protein suncured $45 ton, 136,000 A unit dehydrated $65 ton, both delivered, carlots.

Minneapolis: Prices were stronger this week, although a wider range of quotations was encountered in bulk granules than previously. Quotations: 17% dehydrated, 100,000 units of vitamin A guaranteed $69@70, granules and oil treated $66@69, bulk; 13% dehydrated, 125,000 units of vitamin A guaranteed $73 granules and oil treated $72, bulk.

St. Louis: Demand fair; trend steady; supply adequate; dehydrated, 17%, 100,000 A $66 ton; suncured No. 1 fine ground 13% $53 ton, f.o.b. St. Louis.

Ft. Worth: Demand good; supply limited for nearby; California origin dehydrated meal or pellets, truck $67, January, delivered Ft. Worth; suncured: South Dakota No. 1 13% protein, ¼-in. grind, rail shipment $53, prompt; Colorado No. 1 $52; California 15% pellets $59, delivered Ft. Worth, truck.

Kansas City: Demand strong; trend higher; supply tight; 17% protein dehydrated alfalfa with 100,000 units vitamin A guaranteed on arrival $65, sacked, Kansas City; 18% protein, 125,000 units A $68; 100,000 A pellets $58.50@59.50; non-guaranteed A meal $55, sacked, but very little available; suncured No. 1 fine ground $45@47.50, sacked; No. 1 ¼-in. $42@45, No. 2 ¼-in. $41@42, sacked.

Portland: Demand slow; supply ample; trend unchanged; 15% suncured, Idaho $45, f.o.b. Portland; 15% suncured, California $45, f.o.b. California; dehydrated $55.

Los Angeles: 15% suncured $43@44, demand fair, supply ample; 17% dehydrated $56@67, demand nominal; supply scarce.

Denver: Demand good; supply fair; dehydrated, 17% $76.75; suncured, 13% $63.75.

ANIMAL FATS (STABILIZED)

Ft. Worth: Demand good; supply sufficient; prime tallow, tank cars 7¾¢ lb.; drums 9¾¢, f.o.b. north Texas packing plants, with returnable drums.

San Francisco: Demand fair; supply ample; bleachable fancy 7⅝¢ lb.; yellow grease 7⅛¢ lb.

Chicago: Demand and supply fair; bleachable fancy tallow, tank truck or carlots 7⅛@7¼¢ lb.; yellow grease 6¼¢.

Kansas City: Demand slower; trend weaker; supply adequate; prime tallow 7¼¢ lb.; bleachable fancy yellow 7¼¢ lb.

Los Angeles: Demand good; trend fair; supply ample; bleachable fancy tallow 7½¢; yellow grease 6½¢.

Louisville: Demand slow; trend easy; supply good; bleachable white 7⅝@7¾¢; white tallow 7¼¢; yellow grease 6½¢.

BARLEY FEED

Philadelphia: Demand dull; supply fair; pulverized $52.50.

Portland: Demand good; supply ample; trend unchanged; rolled $63, ground $61.

Los Angeles: Demand fair; trend strong; supply ample; standard rolled $3.50, standard ground $3.46.

Boston: Demand slow; supply light; pulverized $52.75, nominal.

Seattle: Demand fair; trend steady; supply good; whole barley $60 ton, ground barley $60 ton, rolled barley $62 ton, all ex-warehouse, l.c.l., sacked.

San Francisco: Demand fair; supply ample; rolled $68, ground $67.

Milwaukee: Demand fair; supply good; needles $1.03@1.18; ground $32, sacked, Milwaukee.

Chicago: Demand good; supply light; $45.

Ogden: Supply average; rolled $55@60; whole barley $48@53.

Baltimore: Demand good; supply light; $54.50.

New Orleans: Demand dull; trend firm; supply adequate; $53@55 on pulverized.

BENTONITE (SODIUM)

Chicago: Demand very good; supply adequate; f.o.b. Wyoming and South Dakota shipping points: granular, 30 mesh $15.50; fine granular, 80-100 mesh $12.75; powder, 200 mesh $12.50; f.o.b. Belle Fourche, S.D., minimum 30-ton carlot: 80 granular $12.50 net; 200 mesh fine $12.25 net.

BLOOD FLOUR

Louisville: Demand fair; trend steady; supply ample; $80@85 ton.

BLOOD MEAL

Los Angeles: Demand good; trend firm; supply adequate; $4.75 a unit of ammonia.

Portland: Demand slow; supply ample; trend unchanged; $95.

San Francisco: Demand slow; supply fair; screened $5 a unit of ammonia.

Louisville: Demand fair; trend steady; supply normal; $80@85 ton.

Seattle: Demand slack; trend easy; supply good; $80 ton, ex-warehouse, truck lots.

Chicago: Demand fair; supply adequate; $100@120 ton, guaranteed 80% protein.

New Orleans: Demand fair; trend steady; supply adequate; $100@102.50.

Ogden: Supply normal; $97.50 ton in 100-lb. bags, f.o.b. Ogden.

Cincinnati: Demand fair; trend steady; supply adequate; $115.

BONE MEAL (STEAMED)

Boston: Demand and supply steady; $85.

St. Louis: Demand good; trend steady; supply adequate; $90@95 ton, sacked.

Los Angeles: Demand fair; trend steady; supply ample; $89.50, domestic.

Ft. Worth: Demand fair; supply adequate; $85, sacked, f.o.b. Ft. Worth, local manufacture.

Buffalo: Demand good; trend steady; supply ample; $85 ton, sacked.

Portland: Demand slow; supply ample; trend unchanged; import $90.

Seattle: Demand and trend steady; supply good; $85 ton, ex-dock, truck lots.

San Francisco: Demand good; supply ample; $82.50.

Louisville: Demand poor; trend steady; supply ample; $70@75 ton.

Chicago: Demand slow; supply adequate; $65@85.

New Orleans: Demand fair; trend steady; supply ample; $86@89.50.

Cincinnati: Demand fair; trend steady; supply adequate; $80 ton, sacked, f.o.b. Cincinnati.

Omaha: Demand good; supply ample; $80.

BREWERS DRIED GRAINS

St. Louis: Demand good; trend steady; supply ample; $48 ton bulk, $53 ton sacked.

Ft. Worth: Demand slow; offerings scarce; 26% $65@66, delivered Ft. Worth.

Los Angeles: Demand fair; trend steady; supply ample; f.o.b. Van Nuys: $59 sacked, $52 bulk.

Philadelphia: Demand dull; supply very light; $65.

Boston: Demand active; supply spotty; 26% $63.25.

Louisville: Demand fair; trend steady; supply normal; southern movement fair; $54 ton.

Cincinnati: Demand fair; trend steady to easy; supply adequate; $60@62.50.

New Orleans: Demand good; trend steady; supply ample; $53@56.

Chicago: Demand slow; supply light; 26% $56.50@57.

Milwaukee: Demand fair; supply good; $56.

BREWERS DRIED YEAST

Chicago: Demand good; supply limited; 10@11½¢ lb. in carlots; 10¼@12½¢ l.c.l.

Portland: Demand slow; supply ample; trend unchanged; 13½¢.

Buffalo: Demand good; trend firm; supply limited; $10.65 cwt.

Pittsburgh: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

New Orleans: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

Cincinnati: Carlots 10¢ lb.; 5-ton lots 11¢; ton lots 11½¢.

New York: Carlots 9¾¢ lb.; 10-ton lots 10¢ lb.; 5-ton lots 10½¢ lb.; ton lots 11¢ lb., f.o.b. New Jersey.

St. Louis: Demand fair; supply adequate; 10¢ lb. in carlots; 10½¢ lb. in 5-ton lots; 11¢ lb. in ton lots; 11½@12¢ lb. in less than ton lots.

Milwaukee: Demand good; supply limited; 10½@11½¢ lb., in carlots; 10¾@12½¢, l.c.l.

San Francisco: Demand fair; supply good; 10¢ lb.

Omaha: Demand good; supply adequate; 11¢ lb.

Louisville: Demand slow; trend steady; supply normal; 10¢ lb.

Boston: Demand good; supply fair; 11¢ lb.

BUTTERMILK-CONDENSED

Philadelphia: Demand moderate; supply fair; $4.25, barrels.

Portland: Demand slow; supply ample; trend unchanged; $4.75.

Louisville: Demand slow; trend steady; supply ample; $4.25 cwt.

San Francisco: Demand fair; supply good; $5 cwt.

Los Angeles: Demand fair; trend steady; supply ample; 100-lb. drums $5.50; large barrels $4.75.

Boston: Demand fair; supply light; $3.75 cwt.

Ogden: Supply average; $4.90, 100-lb. drum.

New Orleans: Demand fair; trend steady; supply adequate; $4.25@4.75.

Chicago: Demand fair; supply adequate; $3.25@3.50 cwt. in carlots.

CALCITE CRYSTALS AND FLOUR

(All prices net, including freight and tax)

New York: Crystals $13.97, flour $9.72.
Buffalo: Crystals $14.74, flour $10.47.
Toledo: Crystals $16.39, flour $12.14.
Boston: Crystals $15.18, flour $10.93.
Limecrest, N.J.: Crystals $9.75, flour $5.50.

CALCIUM CARBONATE

Los Angeles: Demand fair; trend steady; supply ample; meal and flour $10.53 ton, carloads; grits $13.03 ton, carloads.

Minneapolis: Plain $11; iodized (⅛ lb. KI per ton) $14.45; iodized manganesed $16.90, in 100-lb. bags.

Chicago: Plain $8.90 ton in 100-lb. bags, delivered.

Seattle: Demand and trend steady; supply good; $14 ton, ex-warehouse, truck lots.

Cincinnati: Demand fair; trend steady; supply adequate; $8@9.

CHARCOAL

Chicago: Demand quiet; supply limited; poultry charcoal $102 ton in 50-lb. multiwalls.

Los Angeles: Demand slow; trend steady; supply ample; poultry charcoal, oak, 40-lb. bags $176 in ton lots.

San Francisco: Demand steady; supply fair; $54.50.

Boston: Demand and supply light; $95, nominal.

COCONUT MEAL

Portland: Demand slow; supply ample; trend unchanged; $72.

Los Angeles: Demand quiet; trend steady; supply adequate; cake, ex-dock, offshore $71@72.50.

Seattle: Demand slow; supply limited; trend unchanged; $72 ton, ex-dock, 30-day arrival from Philippines.

San Francisco: Demand fair; supply ample; solvent $66, expeller $71.50.

COD LIVER OIL (FORTIFIED)

Boston: Demand slow; supply ample; 600 D, 2,250 A 21¢ lb.; 300 D, 2,250 A 20¢; 300 D, 1,500 A 17½¢.

New York: Trend steady; price per lb. in 55-gal. drums (413 to 420 lb.): 300 ICU, 750 A 14½@15½¢, 1,500 A 16½@19¢, 2,250 A 18½@21¢, 3,000 A 21½@23¢; 600 ICU, 1,500 A 18@19½¢, 2,250 A 20@22¢, 3,000 A 22@23¢; f.o.b. Massachusetts, New York or Pennsylvania.

CONDENSED FISH SOLUBLES

Los Angeles: Demand good; trend steady; supply limited; 4¢.

Boston: Demand good; supply tight; 4¢ lb., nominal.

New York: Demand good; trend steady; supply limited; 4½¢ lb., f.o.b. eastern shore.

New Orleans: Demand good; trend steady; supply limited; $2.50@$5. East Coast and Gulf on menhaden 50% solids.

CORN GERM MEAL

St. Louis: Demand good; trend firm; supply adequate; $47 ton bulk, $52 ton in burlap sacks, St. Louis.

CORN GLUTEN FEED AND MEAL

(All quotations for all cities are sacked basis, bulk basis $5 less)

Minneapolis: Feed $53.08, meal $76.08.
Atlanta: Feed $62.69, meal $80.49.
Birmingham: Feed $60.74, meal $78.74.
Boston: Feed $59.61, meal $77.60.
Chicago: Feed $49, meal $67.
Cleveland: Feed $56.31, meal $74.31.
Denver: Feed $58.37, meal $76.37.
Ft. Worth: Feed $56.93, meal $74.93.
Indianapolis: Feed $53.74, meal $71.74.
Kansas City: Feed $49, meal $67.
Louisville: Feed $53.30, meal $71.39.
New Orleans: Feed $58.27, meal $76.27.
New York: Feed $59.20, meal $77.20.
Norfolk: Feed $58.37, meal $76.37.
Philadelphia: Feed $58.78, meal $76.78.
Pittsburgh: Feed $56.93, meal $74.73.
St. Louis: Feed $49, meal $67.

CORN OIL MEAL

Cincinnati: Demand fair; trend steady; supply adequate; $57.10@58.10.

Louisville: Demand dull; supply ample; trend unchanged; $57.10 ton.

COTTONSEED OIL MEAL

Los Angeles: Demand slow; trend steady; supply ample; $64, local.

Philadelphia: Demand dull; supply fair; $74.

Kansas City: Demand draggy, holiday market; trend steady; supply adequate, not much solvent meal around for nearby; $56 for solvent, sacked, Memphis, nearby, with January-March offerings at $55.50 and February-March offerings at $54; $57@58.50, for old process meal.

Ft. Worth: Demand good; offerings for immediate shipment limited; carlots, 41% old process $63, f.o.b. central Texas mills; solvent 41% low gossypol $65@66, delivered Ft. Worth, January shipment; pellets $2 additional; cottonseed hulls $33@34, delivered Ft. Worth.

Portland: Demand slow; supply ample; trend unchanged; $64, f.o.b. Los Angeles.

Boston: Demand slow; supply good; $72.50.

Omaha: Demand fair; supply ample; 41% solvent $71.50, pellets $74.50.

Wichita: Demand slow; supply sufficient; 41% old process $67.50; solvent $66@67.

Louisville: Demand dull; trend firm; supply normal; old process $66.75; new process, no quotations available.

San Francisco: Demand good; supply ample; expeller $68; solvent $66.50.

Seattle: Demand fair; trend steady; supply good; $76 ton, delivered, truck lots, 41% expeller process.

Ogden: Supply normal; 41% $63@73.

Chicago: Demand slow; supply plentiful; hydraulic $68.50@69; solvent $63@68.50.

New Orleans: Demand improving; trend firm; supply light; 41% $74@77.

Cincinnati: Demand fair; trend steady; supply adequate; solvent $67@68; old process $63@69.

Memphis: Demand slow; trend dull; supply ample; prime 41% protein, old process $57.50, sacked; new process, 41% solvent $55.50, sacked.

Atlanta: Demand fair; trend strong; supply limited; 41% $62, sacked, immediate.

Buffalo: Demand and supply fair; trend steady; $75.25, sacked, Boston.

D ACTIVATED ANIMAL STEROL, POWDERED

Kansas City: Demand and supply normal; trend steady; 10½@11¢ lb.

Cincinnati: Demand fair; trend steady; supply ample; 1,500 ICU 11@12¢; 3,000 ICU 18¢, warehouse.

New York: Trend steady; price per lb. in 50- and 100-lb. bags or 100-lb. drums: 1,500 ICU 8@12¢ bagged, 12@13¢ drums; 3,000 ICU 13@17¢ bagged, 17@18¢ drums; f.o.b. or delivered basis Pennsylvania, Delaware or New York.

D ACTIVATED PLANT STEROL, POWDERED

Chicago: Demand good; supply adequate; 4,000,000 U.S.P. units per lb., 15¢ lb.; ton lots and less 17¢; 12,000,000 units per lb., 5 tons to a carload 28¢ lb.; ton lots and less 30¢ lb.

DEFLUORINATED PHOSPHATE

Tupelo, Miss.: $49.50.
Houston: 19% $69.50.
Wales, Tenn.: $64.10.
Coronet, Fla.: Minimum phosphorus 17%, minimum calcium 34%, maximum fluorine .17% $58 net ton, f.o.b. Coronet in 100-lb. multiwall bags, $55 in bulk.

DICALCIUM PHOSPHATE

Minneapolis: 18.5% phosphorus, 24% calcium granular or fine ground $89.06 ton, delivered; $3 ton less in bulk.

Trenton, Mich.: Minimum phosphorus 21%, maximum fluorine .01% guaranteed $90.30, f.o.b. Trenton, in 100-lb. multiwall bags; minimum phosphorus 18½%, maximum fluorine .01% guaranteed $79.55, f.o.b. Trenton in 100-lb. multiwall bags.

Columbia, Tenn.: Minimum phosphorus 18½%, minimum 25% calcium, maximum .01% fluorine guaranteed $79.55 ton, f.o.b. Columbia, in 100-lb. multiwall bags. Freight equalized with nearest producing point, carload basis; bulk $3 ton less.

Chicago: Demand fair; supplies adequate; stock food grade, 18.5% phosphorus, 20,000 lb. or more $79.55 net ton in 100-lb. papers, basis Chicago Heights, Ill., or Nashville, Tenn., less than 20,000 lb. $89.55; 21% phosphorus, 20,000 lb. or more $90.30, basis Chicago Heights and Nashville, less than 20,000 lb. $100.30; freight equalized with St. Louis, Trenton, Mich., and Godwin, Tenn.; bulk boxcars or hoppers, $3 net ton less than bagged material.

Bonnie, Fla.: Demand improving; supply adequate; minimum phosphorus 18½%, granular $79.55; freight equalized with closest dicalcium phosphorus producing point, carload basis.

Cincinnati: 18% phosphorus $88@89.

Portland: Demand slow; supply ample; trend unchanged; $100.

DISTILLERS DRIED GRAINS

Philadelphia: Demand slow; supply light; $68.

Boston: Demand active; supply tight; Canadian light and dark $69.75.

San Francisco: Demand fair; supply ample; $54; solubles $80.

Buffalo: Demand and supply fair; trend steady; $64, bulk, Boston.

Louisville: Demand good; supply light; trend steady; eastern movement good; bourbon grains, light $58.50, dark $60.50, solubles $80.

Cincinnati: Demand poor; trend steady; supply limited; $66@66.

DRIED BEET PULP

Milwaukee: Demand and supply fair; molasses $57, plain $57.

New Orleans: Demand slow; trend steady; supply limited; $60@61.35.

Ogden: Supply normal; $45@50 ton.

Cincinnati: Demand fair; trend steady; supply adequate; $61@62.

Buffalo: Demand poor; trend steady; supply fair; $66, sacked, Boston.

Atlanta: Demand slow; trend steady; supply limited; $71.35, sacked, immediate.

Seattle: Demand good; trend firm; supply sufficient; $52 ton, delivered, carlots, sacked.

San Francisco: Demand good; supply fair; $54.19.

Los Angeles: Demand good; trend firm; supply adequate; $57.50@58.50 in paper bags.

Ft. Worth: Demand slow; supply moderate; carlots, 50-lb. papers $65@66, delivered Ft. Worth.

Boston: Demand slow; supply adequate; $64.50.

DRIED BUTTERMILK

Ft. Worth: Demand very slow; supply light; local production $12 cwt., f.o.b. Ft. Worth.

Los Angeles: Demand fair; trend steady; supply ample; 11¢.

Boston: Demand and supply fair; 11¢ lb.

Louisville: Demand fair; trend steady; supply ample; 9@9½¢ lb.

Minneapolis: Market steady at $8.50@9 cwt.

Wichita: Demand slow; supply adequate; $8 cwt.

Buffalo: Demand good; trend firm; supply limited; $9.15 cwt.

San Francisco: Demand fair; supply ample; 11¢ lb.

Ogden: Supply average; $7.25, 100-lb. bag.

Milwaukee: Demand fair; supply fair; $10.75.

Chicago: Demand improving; supply light; medium acid $8.25@8.75; sweet cream $8.50@9 in carlots.

New Orleans: Demand fair; trend steady; supply ample; 10@11¢.

DRIED CITRUS PULP

New Orleans: Demand good; trend firm; supply scarce to adequate; $41@43, Florida origin.

San Francisco: Demand good; supply fair; meal $55.

Atlanta: Demand fair; supplies ample; trend steady; pulp $43, meal $38, sacked.

Buffalo: Demand fair; trend steady; supply good; $35, sacked, f.o.b. Florida points.

Los Angeles: Demand good; trend firm; light offers; f.o.b. southern California producers' plants: orange $50.50 sacked, $45.50 bulk.

Boston: Demand quiet; supply spotty; $55.

DRIED SKIM MILK

Portland: Demand slow; supply ample; trend unchanged; 12½¢.
Los Angeles: Demand fair; trend steady; supply ample; $13.
Philadelphia: Demand moderate; supply fair; $11.50.
Boston: Demand good; supply fair; 12@12½¢ lb., l.c.l.
Buffalo: Demand fair; trend steady; supply ample; $11.15 cwt.
Minneapolis: Market unchanged at $10.50@11 cwt. in carlots.
Louisville: Demand fair; trend steady; supply normal; 11½@12¢ lb.
San Francisco: Demand and supply fair; 12½¢ lb.
Milwaukee: Demand and supply fair; $11.75.
Chicago: Demand fair; supply adequate; $10.50@11 cwt. in carlots.
New Orleans: Demand fair; trend firm; supply adequate; $11.50@12 cwt.
Ogden: Supply average; $15.15, 100-lb. drum.
Cincinnati: Demand fair; trend steady; supply adequate; 11@12¢.

DRIED WHEY

Ogden: Supply normal; $6.90, 100-lb. bag.
Chicago: Demand fair to good; supply light; $5.40@5.45 cwt. in carlots.
New Orleans: Demand fair; trend steady; supply ample; $6.50@6.90 cwt.
Cincinnati: Demand fair; trend steady; supply adequate; $5.50 cwt.
Louisville: Demand good; trend steady; supply ample; 6¼¢ lb.
San Francisco: Demand steady; supply good; $5.50 cwt.
Seattle: Demand and trend steady; supply good; $6.50 cwt., ex-warehouse, l.c.l.
Ft. Worth: Demand fair; supply adequate; carlots, standard $6.25 cwt., sacked, delivered Ft. Worth or any Texas points or in ton lots, f.o.b. warehouse, Ft. Worth.
Kansas City: Demand and supply normal; trend steady; straight grade $6.25 cwt., delivered or $5.25, f.o.b. plant, plus freight whichever is lower; partially delactosed $6.40.
Philadelphia: Demand moderate; supply fair; $6 cwt.
Portland: Demand slow; supply ample; trend unchanged; $4.95.
Los Angeles: Demand fair; trend steady; supply ample; plants $5.50; f.o.b. Los Angeles warehouses $6.10.
Boston: Demand poor; supply plentiful; $5.85 cwt.
Buffalo: Demand and supply fair; trend steady; $6 cwt.
Minneapolis: Market unchanged at $5@5.50 cwt.

FEATHER MEAL (HYDROLYZED)

Boston: Demand steady; supply adequate; $80, f.o.b. Maine; $85, f.o.b. Delaware.

FISH MEAL

Chicago: Demand slow; supply fair; eastern menhaden fish meal, 60% protein $141@143; western blended, 60% protein $130; Gulf, no offerings; Northwest herring-salmon blend $130; Canadian herring, 73% protein $1.95@2 a unit of protein, all f.o.b. producing points; 60% blended $152, delivered Midwest points.
Milwaukee: Demand and supply fair; 60% $162.
New Orleans: Demand good; trend firm; supply poor; menhaden 60% $140@142, burlaps; Angola 60% $142@144, burlaps, f.o.b. Mobile.
Minneapolis: Market somewhat easier; demand fair; $2 a unit of protein for 70% meal, West Coast; 60% meal $145@150, delivered.
Ogden: Supply average; $2.20 a unit, f.o.b. Coast; 65% $171@173.
Cincinnati: Demand fair; trend steady; supply fair; $150@160.
Louisville: Demand fair; trend steady; supply ample; $150 ton.
Buffalo: Demand fair; trend steady; supply limited; 60% protein menhaden $145 ton, bulk; $150 sacked.
San Francisco: Demand fair; supply ample; $2.30 a unit of protein.
Seattle: Demand fair; trend steady; supply good; $2.10 a unit protein, delivered, carlots, Canadian production.
Boston: Demand good; supply limited; $140@142.
Ft. Worth: Demand fair; supply light for nearby delivery; 63% South African pilchard with solubles $146; 65% Angola $144, f.o.b. Houston.
Portland: Demand slow; supply ample; trend unchanged; $2, f.o.b. Vancouver; $2.10, f.o.b. California.
Los Angeles: Demand good; trend steady; supply tight; $2.20@2.25 a unit of protein.
Atlanta: Demand slow; trend steady; supply limited; 60% $152, sacked, immediate.

HAY

Portland: Demand slow; supply ample; trend unchanged; $35.
Los Angeles: Demand fair; trend steady; supply ample; U.S. No. 1 $31@33; U.S. No. 2, leafy $28@30; U.S. No. 2, green $27@28; U.S. No. 2 $25@26.
Ft. Worth: Demand excellent; offerings light; carlots, baled, No. 1 alfalfa $46.50@47.50, No. 2 $44.50@46.50; prairie No. 2 $40.50@42.50, delivered TCP on 50% drouth freight rate.
Philadelphia: Demand and supply fair; $28@29.
St. Louis: Demand good; trend steady; supply ample; alfalfa, first and second cutting $18@20 ton; alfalfa, third and fourth cutting $22@24 ton; prairie (Kansas) $38@39 ton; timothy and clover mixed (Missouri and Illinois) $26@28 ton.
Boston: Demand slow; supply adequate; No. 2 timothy $36@38.
Seattle: Demand fair; trend steady; supply good; $35 ton, delivered, truck lots, U.S. No. 2 green.
Wichita: Demand slow; supply very light; prairie $30, alfalfa $37.50@40.
Louisville: Demand dull; trend steady; supply good; fancy alfalfa, No. 1 $30, No. 2 $28; No. 1 hay, clover, timothy, mixed clover and timothy or alfalfa $25; No. 3 lespedeza, no established price; straw $20@22 ton.
New Orleans: Demand good; trend high; supply sufficient but top quality scarce; timothy $69@71; timothy and clover mixed $73@75; No. 1 baled alfalfa $79@81.
Ogden: Supply normal; $1.10 bale; $21@24 ton in the barn.
Cincinnati: Demand fair; trend steady; supply adequate; No. 1 timothy hay $22.50; No. 1 red clover $24; No. 1 second cutting green alfalfa $26; No. 1 red clover, mixed $26; wheat or oat straw $22.

HOMINY FEED

Chicago: Demand fair; supply adequate; $47.50@48.
Milwaukee: Demand good; supply fair; $51, sacked, Milwaukee.
New Orleans: Demand good; trend steady; supply ample; $61.50@63.50.
Cincinnati: Demand fair; trend steady; supply adequate; $50@51.
Kansas City: Demand fair; trend steady to stronger; supply tight in some places for immediate; $50.50@51.50, sacked, for yellow; $50, sacked, for white; $3.50 less for bulk.
Buffalo: Demand fair; trend steady; supply adequate; $53.50, bulk, Boston.
Memphis: Demand and supply fair; trend steady; white $49.30, yellow $49.30.
Boston: Demand slow; supply good; $57.50.
Louisville: Demand slow; trend steady; supply normal; $50.20 ton.
Seattle: Demand fair; trend steady; supply good; $61.50 ton, delivered, carlots, sacked.

LINSEED OIL MEAL

Louisville: Demand slow; trend steady; supply ample; old process $77.60; new process $68.60.
San Francisco: Demand and supply fair; $75.
Wichita: Demand fair; supply sufficient; 34% $71.
Seattle: Demand steady; trend firm; supply tight; 34% protein expeller $82 ton, 36% solvent $80 ton, both delivered, carlots, sacked.
Omaha: Demand fair; supply ample; 32% expeller $74.50, pellets $77; 36% solvent $66.50, pellets $68.
Los Angeles: Demand good; trend steady; light offers; $73@74.
Minneapolis: The market is firmer, with offerings reduced. Quotations: $52@53, bulk, Minneapolis, for January and $51.50 for February-March; 22% flaxseed screenings oil feed $31, bulk, Minneapolis.
Kansas City: Demand fair to good; trend stronger; supply adequate; $52, bulk, Minneapolis, with some offerings at $51 snapped up quickly.
Portland: Demand slow; supply scarce; trend unchanged; $72, f.o.b. Los Angeles.
Philadelphia: Demand and supply fair; $73.
Ft. Worth: Demand slow; supply adequate; carlots, 34% or better: January-April $74.05, delivered Ft. Worth; pellets $2.50 premium.
Boston: Demand slow; supply light; new process 32% $70.17, bulk.
Milwaukee: Demand and supply fair; old process $70.75; new process $61.26.
Chicago: Demand fair; supply adequate; solvent $61.50@62; expeller $71.50.
Cincinnati: Demand poor; trend steady; supply adequate; new process $65.50@67; old process $75.50@77.
New Orleans: Demand good; trend higher; supply scarce; 32% or better $73@75.50.

MALT SPROUTS

St. Louis: Demand good; trend steady; supply adequate; No. 1 bulk $43 ton; No. 1 sacked $48 ton; No. 2 bulk $41 ton.
Chicago: Demand slow; supply adequate; No. 1 $47.50@48.
Milwaukee: Demand good; supply fair; oddweights $49; evenweights $48.
New Orleans: Demand fair; trend steady; supply limited; No. 1 $48@54.
Cincinnati: Demand poor; trend steady; supply fair; No. 1 $53.50@54.

MEAT SCRAPS

Chicago: Demand quiet; supply fair; 50% protein $65@75; 55% $85.
New Orleans: Demand fair; trend steady; supply ample; 50% meat and bone $77@78, burlaps.
Ogden: Supply normal; $82.50 ton in 100-lb. bags.
Cincinnati: Demand fair; trend steady; supply fair; 50% $69.50 ton, sacked, f.o.b. Cincinnati.
St. Paul: Market stronger because of reduced offerings. Quotations: $77 for 50% meat and bone scraps.
New York: Demand fair; trend steady; supply good; 50% $70, 55% $75, bulk; 50% $75, 55% $78, sacked.
Buffalo: Demand fair; trend steady; supply ample; 50% meat scraps $67.50 ton, bulk; $72.50, sacked.
Kansas City: Demand draggy; trend steady; supply adequate; 50% meat and bone scraps $65@70, sacked.
St. Louis: Demand fair; trend steady; supply ample; 50% $71@73 ton bulk, $76@78 ton in paper sacks, $75@77 ton in burlap sacks.
Los Angeles: Demand fair; trend steady; supply ample; $1.60@1.65 a unit of protein.
Portland: Demand slow; supply ample; trend unchanged; $1.55 a unit.
Ft. Worth: Demand slow; supply ample; meat and bone, 50% $64@66, f.o.b. or delivered Ft. Worth.
Boston: Demand cautious; supply plentiful; $1.05 a protein unit; converted 50% $65.
Seattle: Demand fair; trend steady; supply good; $75 ton, ex-warehouse, 50% protein, sacked.
Omaha: Demand good; supply ample; $75.
Wichita: Demand fair; supply ample; 50% $77.50, f.o.b. plant; 55%, no quotations, no offerings.
San Francisco: Demand fair; supply ample; $1.50 a unit of protein.
Louisville: Demand fair; trend steady; supply ample; $70@75 ton.

MILLET

St. Louis: Demand fair; trend firm; supply scarce; recleaned Early Fortune $4.40 cwt., sacked; recleaned White Proso $4.50 cwt., sacked.

MILLFEED

Minneapolis: The market is quiet, and prices of sacked material are somewhat easier while bulk material is pressing. Quotations: bran $42.50@43.50, standard midds. $42.50@43.50, flour midds. $45@46.50, red dog $47.
Kansas City: Demand slow, holiday affecting; trend steady; supply adequate with possibly bulk middlings pressing; quotations Dec. 26: bran $41.25@41.75, shorts $41.25@41.75, sacked; bran $37.50@38, shorts $39@39.50, middlings $38@39, bulk.
Ft. Worth: Demand fair; offerings moderate; carlots, burlaps, prompt, bran $48@49; gray shorts $48.50@49.50, delivered Texas common points; unchanged on bran, 50¢ lower on shorts compared with previous week.
Omaha: Demand fair; supply ample; bran and shorts $41.75; standard midds., bulk $40.50.
Wichita: Demand fair, with bran in stronger demand than shorts; supply sufficient; quotations Dec. 24, basis Kansas City: bran $41@41.50, shorts $41@41.50; bran declined 50¢ ton and shorts $1 ton compared with the previous week.
Chicago: Observance of the Christmas holidays held trading in millfeeds to a low level during the week ending Dec. 26, and prices fluctuated only mildly during the period. A pick-up in buying and selling is expected in the next few days for shipment after Jan. 1. Quotations: bran $46@46.50, standard midds. $46, flour midds. $49@50, red dog $50@52.
Cincinnati: Demand fair; trend steady to easy; supply adequate; bran $51.25@52, middlings $50.25@52.50.
St. Louis: Demand for feeds fair; price trend firm; supplies adequate; bran $46@46.50, shorts $46@46.50, St. Louis switching limits.
Louisville: Demand fair; trend stronger; supply ample; bran $52, mixed feed $52.50, shorts $52, middlings $53.25.
Buffalo: Millfeed sales were slow and prices held unchanged. Some buyers were thought to be holding back until after the first of the year. Bran, middlings and heavy feeds held unchanged from a week ago. Quotations Dec. 26: bran $47.50@48.50, standard midds. $49@50, flour midds. $50@52, red dog $50@52.
New York: Demand fair; trend steady; supply good; bran $55@55.50, standard midds. $56.50@57.
Boston: Demand slow; supply adequate; bran and middlings $56.
Philadelphia: Demand dull; supply ample; bran $55.50, standard midds. $57, red dog $61.
New Orleans: Demand good; trend steady; supply adequate; bran $52@53.50; shorts $52@53.75.
Memphis: Demand quiet; trend steady;

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supply adequate; wheat bran $48.50, gray shorts $48.50, standard midds. $48.50.

Seattle: Demand good; trend firm; supply limited; $45 ton, delivered common transit points, carlots.

Portland: Demand slow; supply ample; trend unchanged; $46.

Ogden: Supply normal; to Utah and Idaho: red bran and mill run $46, middlings $51; to Denver: red bran and mill run $53, middlings $58; to California: red bran and mill run $53.50, middlings $58.50, f.o.b. San Francisco and Los Angeles.

San Francisco: Demand fair; supply ample; $54.50; red bran $59.50.

Los Angeles: Demand fair; trend steady; supply ample; mill run, Utah-Idaho billing, sacked $54@55; red bran, delivered CCP, sacked $59@60.

MINERAL FEED

Ogden: Supply normal; $108 ton in 50-lb. blocks; $98 ton, granular, 50-lb. bags.

Ft. Worth: Demand fair; supply ample; all-purpose granules $88, block $93, mineral phosphorus 6%, granules $104, block $109; cattle-sheep mineral 7% phosphorus granules $97, block $102; hog mineral phosphorus 3½% granules $87; phosphorus 2% $76 (all in 50-lb. paper bags).

Sioux City: 50-lb. mineral blocks, 8.2% phosphorus $92; 7.5% phenothiazine sheep mineral blocks $4 each.

Portland: Demand slow; supply ample; trend unchanged; $42.

San Francisco: Demand steady; supply good; all-purpose with iodine $70.

Wichita: Demand good; supply sufficient; all-purpose with iodine, 50-lb. blocks $95, 100-lb. bags $90, f.o.b. plant.

Seattle: Demand fair; trend steady; supply good; competitive brands $45 ton, ex-warehouse; high phosphorus mixtures $65 ton, ex-warehouse.

MOLASSES

Seattle: Demand steady; trend firm; supply good; $35 ton, f.o.b. Seattle, tank car lots.

San Francisco: Demand good; supply good; $35 ton, f.o.b. cars Richmond, Cal.

Louisville: Demand slow; trend steady; supply normal; 28¢ gal., f.o.b. Gulf ports, in tank car lots.

New York: Demand good; trend steady; supply fair; blackstrap 29¢ gal., tank cars, tank wagons, f.o.b. New York.

Buffalo: Demand good; trend steady; supply fair; 29½¢ gal., f.o.b. Albany.

Memphis: Demand fair; trend firm; supply limited; blackstrap 28¢ gal., tank car, f.o.b. New Orleans.

Minneapolis: Market is steady, with quotations generally 28½¢ gal., f.o.b. New Orleans, and a few offerings at 28¢ gal.

Atlanta: Citrus molasses—demand good; supply limited; trend strong; $35 ton, bulk, f.o.b. Florida producing points.

Los Angeles: Demand good; trend firm; supply ample; $35, f.o.b. tank cars; $35.25, f.o.b. tank trucks, both Los Angeles harbor.

Ft. Worth: Demand good; supply very scarce; blackstrap 29¢ gal., f.o.b. Houston; delivered Ft. Worth, trucks $57.29; seller's market price on date of shipment.

Kansas City: Demand fair for holiday week; trend steady; supply adequate; 28¢ gal., New Orleans, for immediate; 28½@29¢ gal. for January offerings.

New Orleans: Demand good; trend steady; supply adequate; 28¢ gal. in tank cars; 600-lb. drums $16.29, customers' drums.

Boston: Demand fair; supply ample; 29¼¢ gal. in tank cars.

Cincinnati: Demand fair; trend steady; supply adequate; 27½@28¢ gal., New Orleans.

NIACIN

New York: Trend steady; $3 kilo, 50-kilo lots; $3.10 kilo, 10-kilo lots; $3.20 kilo, 5- and 2½-kilo lots; $3.30 kilo, 1-kilo lots; freight prepaid or paid to destination.

OAT PRODUCTS

Cincinnati: Demand fair; trend steady; supply adequate; reground oats $25; pulverized white oats $53@53.50; rolled oats $96.

Boston: Demand steady; supply adequate; white pulverized $58.50; ground mixed $48.75; reground oat feed $21@22.

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Memphis: Demand and supply fair; trend steady; 3½% protein, reground oat feed $28.50.

New Orleans: Demand fair; trend quiet; supply ample; pulverized white oats $59@61, used bags; $66@68, jutes; reground oat feed $33.50@35.50.

Chicago: Demand fair; supply adequate; reground oat feed $20.50; fine ground feeding oatmeal $80@81; feeding rolled oats $90@91.

Minneapolis: Market unchanged, with trade quiet. Quotations: feeding rolled oats $88, standard pulverized $51.50, feeding oatmeal $74.50, reground oat feed $23, nominal, crimped oats $64.50.

Ft. Worth: Demand fair; supply scarce for immediate delivery; oat millfeed $52.40, reground oat millfeed $29.90.

Philadelphia: Demand dull; supplies fair to light; pulverized white oats $56; Canadian oat feed $31, domestic $27.

Portland: Demand slow; supply ample; trend unchanged; rolled $66, ground $63, cleaned $67.

Los Angeles: Demand fair; trend steady; supply ample; white pulverized $74.

St. Louis: Demand fair; trend weak; supply adequate; reground oat feed $21.50 in 100-lb. burlap sacks; pulverized white oats $49 ton, choice $51.

Seattle: Demand fair; trend steady; supply good; whole oats, recleaned $72 ton, ground oats $70 ton, rolled oats $73 ton, all ex-warehouse, sacked, l.c.l.

Louisville: Demand slow; supply ample; trend unchanged; reground $26.25; rolled oats $95.25; feeding meal $86.25; pulverized white oats $54.25; crimped white $76.25.

OYSTER SHELL

Seattle: Demand fair; trend steady; supply good; western shell $28 ton, eastern shell $32 ton, both ex-warehouse, l.c.l.

Louisville: Demand good; trend firm; supply normal; in 80-lb. bags $21.34 ton, in 50's $21.54, in 25's $21.84.

San Francisco: Demand fair; supply ample; local $15, eastern $26.

New Orleans: Demand fair; trend steady; supply ample; $18@18.25 local.

Boston: Demand good; supply plentiful; $23.71 in paper; f.o.b. Florida points $13.

Cincinnati: Demand fair; trend steady; supply adequate; $21.75.

Los Angeles: Demand and trend steady; supply ample; local $18.25, eastern $25.

Portland: Demand slow; supply ample; trend unchanged; western $30, eastern $36; granite grits $26.50, crystal grits $26.50.

PEANUT OIL MEAL

Milwaukee: Demand and supply fair; 26% $47.

Atlanta: Demand slow; trend steady; supply limited; 45% $62, sacked, immediate.

PEAT MOSS

Philadelphia: Demand and supply fair; $2.95, f.o.b. pier.

Portland: Demand slow; supply ample; trend unchanged; $3.15.

San Francisco: Demand fair; supply ample; $3.35 bale.

Los Angeles: Demand and trend steady; supply ample; Canadian 6.1 cu. ft. bales $3.45 in 300-bale lots, delivered, California main line points.

Seattle: Demand slow; trend steady; supply good; $2.90 bale, delivered carlots, horticultural or poultry.

Chicago: Demand good; supply ample; $3.75@3.85 standard 7½ cu. ft. bale.

Boston: Demand and supply steady; $3@3.10 bale.

POTASSIUM IODIDE, U.S.P.

St. Louis: Demand fair; trend steady; supply ample; 100% pure potassium U.S.P., 250-lb. average in drums $1.90, 100-lb. lots in fiber drums $1.92; 90% potassium iodide calcium stearate mixture, 225-lb. lots in leverpak drums $1.81, 100-lb. lots in fiber drums $1.86.

New York: Trend steady; granular or crystals $1.80½ lb. in 250-lb. drums, $1.92 lb. in 100-lb. drums, $1.95 lb. in 25-lb. drums; 90% KI in calcium stearate or carbonate mixtures, $1.81 lb. in 250-lb. drums or 200-lb. lots, $1.83 lb. in 100-lb. drums, $1.96 lb. in 25-lb. drums; f.o.b. New York, New Jersey or Pennsylvania; freight allowed to destination on 100-lb. drums or larger packings.

RIBOFLAVIN

New York: Trend steady; feed grade (in feed supplements) 4½¢ gram in 3.36 to 16 gm./lb. mixtures, freight prepaid or paid to destination.

RICE BY-PRODUCTS

Ft. Worth: Demand slow; supply moderate; carlots, rice bran $40@41, prompt shipment, f.o.b. south Texas rice mills; hulls $4@5, f.o.b. mills.

Los Angeles: Demand good; trend firm; supply light; bran $55.61.

Memphis: Demand good; trend steady; supply short; bran $37, sacked, f.o.b. Arkansas points.

Atlanta: Demand fair; trend strong; supply limited; bran $50, sacked, immediate.

San Francisco: Demand fair; supply ample; bran $44, polish $48.

New Orleans: Demand good; trend steady; supply scarce; bran $37@38, Louisiana mills; no quotes on hulls.

SCREENINGS

Minneapolis: Buyers are holding off, and some pressure on Canadians developed from resellers, with the market on this type off about $2 ton. Quotations: country run $20@25, lights $12@22, mediums $23@32, heavies $33@42; Canadian $17, bulk, Duluth; Canadian ground $27.50, sacked, Duluth; flax screenings $23@26.

Cincinnati: Demand fair; trend steady; supply adequate; Canadian $30; barley $28@34.

Buffalo: Demand and supply fair; trend steady; ground, sacked $33.50, New York; unground, bulk $25.75, New York.

Chicago: Demand fair; supply plentiful; ground grain screenings $30; Canadian, bulk $24.

Ft. Worth: Demand good; supply limited; 12% protein, ground $43, sacked, delivered Ft. Worth.

SOFT PHOSPHATE WITH COLLOIDAL CLAY

Atlanta: $18.85@19.10.
Buffalo: $23.65@23.90.
Chicago: $23.10@23.35.
Cincinnati: $21.80@22.
Des Moines: $23.60@23.85.
Kansas City: $23.20@23.45.
Memphis: $20.50@20.70.
Minneapolis: $24.25@25.55.
Philadelphia: $22.65@22.90.
St. Louis: $22.50@22.75.
Tampa: $18@18.20.
Toronto: $27.50@27.80.

SORGHUMS

Ft. Worth: Demand slow; offerings light; carlots, bulk, No. 2 yellow milo $2.45@2.47, delivered Texas common points.

Los Angeles: Demand fair; trend steady; supply ample; No. 2 milo, delivered CCP, prompt $2.90@2.95.

Cincinnati: Demand fair; trend steady; supply adequate; $2.95@2.98.

SOYBEAN OIL MEAL

Boston: Demand good; supply ample; $45, f.o.b. Decatur.

Ogden: Supply normal; $85@90.

Cincinnati: Demand fair; trend steady; supply adequate; $46.50@47, bulk, Decatur.

New Orleans: Demand fair; supply sufficient; trend stronger; 49% $69.50@71.50.

Milwaukee: Demand good; supply fair; $46, bulk, Decatur.

Ft. Worth: Demand good; supply sufficient; carlots, 44% $68@69 depending on origin, January through March; truck $64, January.

Minneapolis: Demand eased off, and prices slipped 50¢@$1.50 ton this week to $41, bulk, Decatur.

Atlanta: Demand fair; trend steady; supply ample; 44% $63, sacked, immediate.

Memphis: Demand fair; trend steady; supply ample; prime 44% solvent $54, sacked, f.o.b. Memphis.

Portland: Demand slow; supply ample; trend unchanged; January $42, March $40.

Los Angeles: Demand slow; trend steady; small offers; $76.94@77.94, delivered CCP.

Philadelphia: Demand fair; supply ample; $45, bulk, Decatur.

Kansas City: Demand fair; trend steady to stronger for nearby, weaker for future; supply tight nearby, plenty for forward; $45.50@47 for immediate, $44.50@45 for January-March, bulk, Decatur, for Kansas City and western shipment; $46.50@47.50 for unrestricted.

Seattle: Demand slow; trend steady; supply good; $76.50 ton, delivered, sacked; $42, bulk, Decatur.

Louisville: Demand fair; trend easy; supply normal; $57.61 ton.

San Francisco: Demand fair; supply ample; $75.94.

Wichita: Demand good; supply sufficient; 44% $63.50, 50% $71.50.

Omaha: Demand fair; supply ample; 44% solvent $61.50, pellets $63; 41% expeller $68.50.

Chicago: Soybean oil meal trading gained a fair volume during the week ending Dec. 26. This indicates feed manufacturers expect an upturn in business after the turn of the year. Quotations: 44% soybean oil meal $56@56.50.

Decatur: Demand fair; supply good; 44% bulk, unrestricted $46.50@47.

SUNFLOWER SEED

St. Louis: Demand fair; trend steady; supply ample; black: large $15.50 cwt., medium $14 cwt., small $10.50 cwt.; gray: large $16 cwt., medium $14.50 cwt., small $10.50 cwt.

TANKAGE

St. Louis: Demand fair; trend steady; supply ample; 60% $79@81 ton bulk, $84@86 ton in paper sacks, $83@85 ton in burlap sacks.

Kansas City: Demand slow; trend steady; supply adequate; 60% digester $72.50@75, sacked.

Los Angeles: Demand fair; trend steady; supply ample; $1.35 a unit of protein.

Ft. Worth: Demand light; supply extremely light; 60% digester $76@77, f.o.b. Ft. Worth.

St. Paul: Market firmer as a result of lighter kill and reduced meal offerings. Quotations: 60% digester $77.

Louisville: Demand fair; trend steady; supply ample; $72.50@77.50 ton.

Wichita: Demand fair; supply ample; 60% $77.50, f.o.b. plant.

Omaha: Demand strong; supply limited; $77.50.

Cincinnati: Demand fair; trend steady; supply adequate; 60% digester $70@76.50.

New Orleans: Demand fair; trend steady; supply ample; 60% $83@85.

Chicago: Demand improved; supply fair; 60% protein $70@77.50.

WHEAT GERM MEAL

New Orleans: Demand fair; trend easier; supply sufficient; $64@66 cottons.

Buffalo: Demand fair; trend lower; supply adequate; commercial grade $61, sacked, f.o.b. Buffalo.

Chicago: Market steady at $63.

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MINORITY

(Continued from page 7)

thirds requirement was that marketing quotas for wheat and cotton required a two-thirds majority to put them into effect and that the same requirement should apply to base acreages for corn.

A Different Thing

"Marketing quotas, however, are very different from base acreages," Prof. Simerl noted. "Compliance with marketing quotas on wheat and cotton is mandatory. Farmers who grow acreages of these crops in excess of their marketing quotas not only lose the price support privilege, but also must pay substantial fines. These fines are so steep that practically no wheat growers plant more than their allotments. Where such compulsion is involved, it may be appropriate to require a two-thirds majority of the voting farmers.

"By contrast, compliance with base acreages for corn would have been voluntary, the same as compliance with acreage allotments. The only penalty for non-compliance with either base acreages or acreage allotments was loss of the price support privilege. There seems to be no adequate justification for requiring a two-thirds majority for base acreages and only one-third for acreage allotments.

10% Approve

"There were only 163,227 unchallenged votes for acreage allotments. No one knows exactly how many persons were eligible to vote, but the number apparently was at least 10 times as many as voted for allotments. Thus corn growers now have a program that has been approved by the action of only 10% of the growers."

Farmers in 24 states voted in the corn referendum. These states and the percentage of votes for acreage allotments for corn were as follows:

West Virginia, 5.1%; Delaware, 11.6; Kentucky, 12.7; Tennessee, 13.0; Georgia, 14.7; Alabama, 17.4; New Jersey, 19.0; Illinois, 19.5; North Carolina, 21.4; Michigan, 24.9; Indiana, 25.4; Pennsylvania, 26.2; Ohio, 28.9; Maryland, 33.1; Iowa, 40.5; Arkansas, 40.8; Wisconsin; 45.1; Kansas, 48.6; Virginia, 49.3; Nebraska, 50.8; Missouri, 53.7; North Dakota, 72.5; South Dakota, 72.9; and Minnesota, 76.5.

"At least three-fourths of the corn producers did not vote either way," Prof. Simerl said. "Why? Some did not vote because they did not understand the two propositions. We suspect, however, that most of those who did not vote had little faith in, or concern about, either program."

TURKEYS

(Continued from page 1)

testings also showed the potential for continued expansion of broiler production. In 40 states for which comparisons are available, the number of chickens for supplying broiler hatching eggs which was tested in November was up 28% from a year earlier.

The number of chickens for other purposes tested during November was down 14% from a year earlier.

In this connection, it is expected that the number of chicks raised for flock replacement in 1957 may show some decrease.

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PIG CROP

(Continued from page 1)

vember and smaller percentages in June-August.

1957 Spring Intentions: Farmers' reports on breeding intentions indicate about 7.5 million sows to farrow in the spring of 1957 (December, 1956-May, 1957). This would be a decrease of 2% from last spring.

Compared with 1956, the south Atlantic states show a 1% increase. All other regions show decreases—north Atlantic, down 12%; east north central, 2%; west north central, 1%; south central, 3%; West, 4%. (See table for state and regional details.)

If intentions materialize and the number of pigs per litter equals the average with an allowance for upward trend, the 1957 spring crop would be 52 million head, or 2% smaller than in 1956. For the Corn Belt, the 1957 spring crop would be 2% smaller than in 1956.

Some experts thought that the spring pig crop would be about the size now indicated. Others thought that it would come even closer to the 1956 level, and possibly even exceed it slightly.

If the average litter size should be up more than indicated, the crop would, of course, be a little larger than now indicated. Also, good hog prices with the reduced slaughter could stimulate production some.

At any rate, in commenting earlier on the outlook, USDA noted that the hog-corn price ratio this past fall was low enough to make an increase in total spring farrowings unlikely. On the other hand, the smaller than usual decline in prices in the fall made producers more confident. Also, the corn crop was big. Accordingly, it was thought that the spring total might be close to 1956.

Hogs Over Six Months Old: The number of hogs more than six months old (including sows) on farms Dec. 1 was about 15% less than a year earlier.

USDA noted that farrowings of the 1956 spring pig crop were the earliest of record, and hogs have been marketed at lighter weights than a year earlier. Although the spring crop was 8% smaller than in 1955, the number of sows farrowing during the first three months of the spring season was up 1%. Total commercial hog slaughter from August through October also was up 1%. However, November slaughter was down 4% and marketings during the first half of December were down substantially. Thus price prospects are stronger.

Selected Corn Belt States: The pig crop report includes special information on nine important Corn Belt states—Ohio, Indiana, Illinois, Wisconsin, Minnesota, Iowa, Missouri, South Dakota and Kansas.

There were about 40.1 million hogs and pigs on farms on Dec. 1 in these nine states, 8% less than a year earlier. Hogs and pigs six months old and over, at 16.2 million head, were down 14% from December, 1955. The number under six months of age was off 3%. There was a 7% drop in the number three to six months old and a 1% increase in pigs under three months old.

The intended number of sows for 1957 spring farrow in these nine states is 5.3 million head, down 1% from 1956. Since breeding stock is included in the inventories, the sharp drop in numbers of older hogs means that the supply of hogs for marketing this winter will be considerably below the winter of 1955-56.

Present intentions indicate that the slight drop in spring farrowings will take place in the period of March-May, with the December-February farrowings at about the same level as a year earlier. Sows expected to farrow during December-February at 1,595,000 head compare with 1,594,000 head a year earlier. The present survey shows a 4% increase for this period over the early intentions of 1,531,000 head reported in September. Some 3,717,000 sows are intended for farrowing in the March-May period—or 1% below a year earlier.

These nine states accounted for 70% of the 1956 U.S. spring pig crop.

Pigs Saved and Sows Farrowing

State and division	Pigs saved Fall (June through Nov.) 1955 —1,000 head—	1956	1956 as % of 1955 %	Pigs saved Year 1955 —1,000 head—	1956	1956 as % of 1955 %	Sows farrowing Spring (Dec. thru May) 1956 —1,000 head—	1957*	1957 as % of 1956† %
Maine	15	13	87	31	30	97	2	2	76
New Hampshire	9	7	78	18	15	83	1	1	105
Vermont	9	8	89	18	18	100	2	2	93
Massachusetts	80	71	89	166	147	89	14	12	86
Rhode Island	6	6	100	12	11	92	1	1	100
Connecticut	16	15	94	33	28	85	2	2	105
New York	117	111	95	268	255	95	20	18	90
New Jersey	88	82	93	192	180	98	18	17	94
Pennsylvania	469	425	91	1,008	955	95	78	67	86
No. Atlantic	809	738	91	1,746	1,647	94	138	122	88
Ohio	2,426	2,233	92	5,086	4,885	96	390	359	92
Indiana	3,695	3,795	103	7,770	7,954	102	595	595	100
Illinois	4,678	4,794	102	11,325	11,267	94	930	930	100
Michigan	652	604	93	1,445	1,362	94	107	102	95
Wisconsin	1,435	1,326	92	3,938	3,409	87	295	289	98
E. N. Central	12,886	12,752	99	29,564	28,877	98	2,317	2,275	98
Minnesota	2,275	2,050	90	6,966	5,853	84	548	548	100
Iowa	7,179	6,835	95	21,326	19,116	90	1,701	1,701	100
Missouri	3,130	3,034	97	6,586	6,646	101	513	523	102
North Dakota	121	112	93	793	611	77	75	77	103
South Dakota	549	475	87	2,962	2,288	77	265	252	95
Nebraska	1,291	1,053	82	4,591	3,426	75	340	313	92
Kansas	654	580	89	1,605	1,445	90	125	116	92
W. N. Central	15,199	14,139	93	44,829	39,385	88	3,567	3,529	99
North Central	28,085	26,891	96	74,393	68,262	92	5,884	5,804	99
Delaware	26	23	88	58	55	95	5	4	85
Maryland	168	153	91	371	337	91	27	25	92
Virginia	490	504	103	1,006	1,033	103	79	81	102
West Virginia	133	104	78	264	228	86	18	14	78
North Carolina	760	821	108	1,882	1,947	103	166	181	108
South Carolina	383	383	100	773	811	105	69	68	99
Georgia	1,106	1,152	104	2,406	2,594	108	212	216	102
Florida	244	285	117	647	707	109	67	65	97
South Atlantic	3,310	3,425	103	7,407	7,712	104	645	654	101
Kentucky	903	937	104	1,876	2,027	108	158	163	103
Tennessee	849	875	103	1,807	1,936	107	156	159	102
Alabama	812	748	92	1,628	1,612	99	127	127	100
Mississippi	446	418	94	877	902	103	85	94	100
Arkansas	385	376	98	740	758	102	57	56	98
Louisiana	293	305	104	633	671	106	60	57	95
Oklahoma	408	328	80	864	756	88	63	52	83
Texas	826	700	85	1,717	1,570	91	128	104	81
South Central	4,922	4,687	95	10,142	10,232	101	834	812	97
Montana	92	76	83	235	195	83	17	17	100
Idaho	83	69	83	183	174	95	15	13	87
Wyoming	21	24	114	49	52	106	4	4	100
Colorado	114	104	91	261	243	93	22	21	95
New Mexico	37	29	78	75	67	89	6	5	90
Arizona	14	16	114	34	35	103	3	3	107
Utah	39	42	108	85	81	95	6	6	92
Nevada	11	10	91	22	21	95	2	2	94
Washington	110	88	80	232	193	83	15	15	100
Oregon	124	104	84	268	244	91	20	20	100
California	258	232	90	587	513	87	46	43	93
Western	903	794	88	2,031	1,818	90	156	149	96
U. S.	38,029	36,535	96	95,719	89,671	94	7,657	7,541	98

*Number indicated to farrow from breeding intentions reports. †Percentages based on unrounded numbers.

Larry McDonough — James McInnis — Ed Otten — Arthur Manuel

Honeggers' Names 5 District Managers

FAIRBURY, ILL. — Five district sales representatives—four in Iowa and one in Michigan — have been named by Honeggers' & Co., Inc., announces L. S. Rolf, vice president and general sales manager.

Bob Royal

Larry McDonough has been appointed manager of the Waterloo, Iowa, district. He has been with the company since July 1, prior to which time he served as branch sales manager for a liquid fertilizer company. Before that, he co-managed a retail feed business at Monticello, Iowa.

Appointed manager of the Newton, Iowa, district was James McInnis. Mr. McInnis previously served in several sales positions and was a hatcheryman and salesman for a Williamsburg, Iowa, hatchery. He studied poultry and dairying while attending Iowa State College.

Ed Otten has been promoted to Sibley district manager in northwestern Iowa. Mr. Otten joined the company in July as farm service salesman in the Iowa territory. He attended Princeton University and did farm service and sales work for Wolcott Feed & Hatchery, Wolcott, Ind.

Named manager of the Mason City, Iowa, area was Arthur Manuel. He previously served as territory manager for feeding milling companies in Crete, Neb. and Minneapolis and has managed hatcheries at New Ulm and Alexandria, Minn.

Bob Royal is the new manager of the Kalamazoo, Mich., district. He has held several positions in sales with Lansing, Mich., companies.

Task Group on Oils, Fats Plans Meeting

WASHINGTON—The second meeting of a task group on oilseeds and animal fats, named to advise the President's bipartisan commission on increased industrial use of agricultural products, will be held at the Conrad Hilton Hotel, Chicago, on Jan. 3-4.

The group will review its preliminary studies of the economic and technical position of oilseeds and animal fats, including appraisals of current and planned utilization research on fats and oils. The group will report to the commission which is to make recommendations to Congress.

The commission announced the appointment of a new member to the task group. He is Sydney C. Reagan, general counsel, Southwestern Peanut Shellers Assn., Dallas.

Chairman of the task group is James C. Konen, vice president in charge of research, Archer-Daniels-Midland Co., Minneapolis.

Other members are: Dr. Waldo Ault, Eastern Utilization Research Branch, U.S. Department of Agriculture, Philadelphia; Harry S. Baker, president, National Cottonseed Processors Assn., Producers Cotton Oil Co., Fresno, Cal.; Marshall Ballard, Jr., president, American Tung Oil Assn., Lumberton, Miss.; Don S. Bolley, technical director, Baker Castor Oil Co., Bayonne, N.J.; John J. Hamel, Jr., National Renderers Assn., Chicago; Wesley Hardenburgh, president, American Meat Institute, Chicago; Willard Lighter, executive vice president, Glidden Co., Chicago; George L. Prichard, executive secretary, National Flaxseed Processors Assn. and Washington representative of the National Soybean Processors Assn., Washington; Dr. Herbert E. Robinson, director of laboratories, Swift & Co., Chicago; Robert Van Tuyle, vice president in charge of manufacturing and research, Emery Industries, Cincinnati.

Cincinnati Exchange Officers Reelected

CINCINNATI — Officers of the Cincinnati Board of Trade, reelected at the annual meeting Dec. 20, are: President, E. B. Terrill, Jr., secretary, Early & Daniel Co.; first vice president, John F. Young, John F. Young Co., and second vice president, Elmer H. Heile, Cincinnati Grain & Hay Co. E. P. Henderson, Schenley Distillers, Inc., was elected secretary.

Reelected directors for three-year terms were H. A. MacCord, Cooperative Mills, Inc.; Roger Drackett, the Drackett Co.; H. H. Mueller, H. H. Mueller, Inc., and Mr. Terrill and Mr. Young.

New Year's Party

CHICAGO—The Chicago Board of Trade will sponsor its annual New Year's party for members, employees, tenants of the building and their families on the exchange trading floor after the market closes at noon Dec. 31, Robert C. Liebenow, president, announces. Julius Mayer, Continental Grain Co., board chairman, will extend greetings and a number of professional entertainers will present a program of novelty acts. Program arrangements are in charge of Doug McKay, a board member and wheat broker.

NAMED MANAGER

INVERNESS, MONT. — Donald Morris has been appointed manager of the McCabe Co. elevator at Inverness, Mont.

GRAZING

(Continued from page 1)

states and by the Department of Agriculture.

Farmers most affected by the action are those with acreage reserve agreements for 1957 crop winter wheat and who have planted a cover crop on the acres designated in the agreements.

States affected and the number of counties in each are as follows:

Iowa, 37; Kansas, 84; Missouri, 93; Montana, 10; Nebraska, 59; New Mexico, 31; North Dakota, 4; Oklahoma, 77; South Dakota, 35; Texas, 233 and Utah, 15.

BU. vs. CWT.

(Continued from page 6)

bu. of wheat to make 100 lb.; 2.083 bu. of barley, and 3.125 bu. of oats. It is obvious that storage rates based on cwt. would have to vary widely among the several grains in order to provide equality of income to the storage operator. As an example, in Minnesota the storage rate is 1/25¢ ($.0004) per day, be it wheat, oats, barley or any other grain. Under the hundredweight system, comparable rates would have to be: Wheat $.000667, barley $.000833, and oats $.00125. As mentioned before, all an elevator operator has to sell is space. It is in his interest to keep the producers and legislators thinking in terms of space—or bushels, which amounts to the same thing.

Additional Arguments

This is one of the main arguments for not changing from the present system of bushels to the proposed system of hundredweights. However, there are many more arguments in favor of retaining the present system.

Even if the change were made in marketing grain, some form of cubic measurement would have to be retained, and it would undoubtedly be the bushel. You may ask why it must be retained? To figure storage space and storage requirements. This could never be figured on a weight basis—hence, we must revert to the bushel. So even if the elevator wanted to get away from the bushel system, it is absolutely essential that it be retained.

Our present system of grading grain is on the bushel basis, and it would have to be changed. This could be done, but, certainly, part of the system would again have to be retained. Test weight is a very important factor in determining the value of grain. Test weight is established by weighing a given volume of grain—again the bushel system—so we run into another situation where volume must be retained.

Government loan and support programs are at present on the bushel basis. While they could be changed, it seems that the little advantage they would gain in accounting would undoubtedly be offset by the additional costs involved in converting records, systems and comparable historical data.

Gigantic Task

An official of the U.S. Department of Agriculture recently commented that very few people realize the magnitude of the job of changing over all the USDA records. The task involved would be so great as to be almost unbelievable. In addition, for several years it probably would be necessary for USDA to publish figures in both bushels and hundredweights. To do otherwise would make practically useless data published in the past. Both the changeover and the publishing of duplicate figures would be very costly.

The same sort of a gigantic task would face industry. In fact, a complete changeover of historical records used by industry would be, for all practical purposes, impossible. Most of these records have been developed on business done in past years and a complete changeover would take too much time and be too costly. Most companies would probably convert only the most important records—then be faced with the task of converting other information every time they wanted to use it.

The futures markets are all conducted on the bushel system and to change would involve untold time and expense in converting present systems and past historical records. Some exchanges have already announced their opposition to the proposed change.

Another reason, and certainly a very important one, for retaining the bushel system, is that while statistics, grades and laws might be changed over to the hundredweight system, converting experience and memory is an entirely different matter. Efficient operation of the grain industry is based on the over-all experience and memory of individuals in all segments of the trade—producers, elevator operators, merchants and processors. That experience and memory have all been based on the bushel system.

Decisions, prices, trading, storing, processing—all the hundreds of things that are done every day in the grain growing and marketing system, are not done by constantly consulting written laws and decisions. The general over-all picture of production, supplies, prices, market spreads, costs and other relevant factors are in the minds of the people in the grain industry—and on a bushel system. Converting this memory and experience of all the people in the grain industry from bushels to hundredweights is a very formidable and risky task, for which the potential rewards are relatively small compared to the potential losses.

The arguments listed above are some, but not all, of the arguments that can be advanced for opposing the change. If feed dealers, and others, want to use the hundredweight system, they can do so without trying to change an entire industry. Since they are buyers of grain, all they have to do is accept bids only in hundredweights. Surely, the sellers will be happy to make the conversion for them and quote prices on a hundredweight basis.

FEED GRAINS

(Continued from page 6)

U.S. yield of 34.3 bu. per acre compares with last year's near-record of 38.3 bu. and the average of 34.1 bu.

Production of barley in 1956 is estimated at 372 million bushels, 7% smaller than the large crop of 1955, but about one third larger than the 10-year average. The decline from last year is attributed to a sharp reduction in the acreage harvested, which was partly offset by higher yields. The U.S. yield per acre at 29 bu. was 1.5 bu. above last year and the highest of record.

Record Soybean Output

Soybean production in 1956 reached another all-time high. The crop is estimated at 456 million bushels, 22% above the previous record of 374 million bushels produced in 1955. The yield is the second highest of record, 21.8 bu. per acre compared with 20.1 bu. last year and the record yield of 22.3 bu. in 1949. The 10-year average yield is 20 bu. per acre.

Soybean acreage in the U.S. also reached a new peak in 1956. A total of 22.3 million acres was planted for all purposes compared with 20 million acres last year. Of this acreage, nearly 21 million or 94% was harvested for beans. This is the highest percentage for beans of record. The acreage cut for hay declined sharply from last year, but there was some increase in the acreage for "other purposes" as dry weather caused some diversion and total abandonment.

Hay Supply Large

The 1956 production of all hay totaled 108.7 million tons. This was 4 million tons less than last year's record production, but 5.1 million tons more than average. The current crop is the third largest ever harvested. Total hay supply, including production plus carryover of old hay, at 125.2 million tons has been surpassed by only the 128 million ton supply in 1955. In relation to the number of roughage consuming animal units, the 1956 supply was a little below last year, but about equal to the two previous years.

Sorghum grain production is estimated at 205 million bushels, down 15% from last year. This production, however, is at a relatively high level, due largely to exceptionally high yields on irrigated acreage, much of which was in the high plains of Texas. Also contributing to a better than average per acre yield for the U.S. were increased acreages in some higher yielding states, primarily Iowa, Missouri and California. Current production in Texas, which has 61% of the national total, and in the U.S. has been exceeded only in 1950, 1954 and 1955.

Sorghum acreage utilized for forage, including that pastured, totaled 6,389,000 acres—about 2% more than in 1955.

Livestock forage was in below normal supply in many sections in 1956. Pastures grew slowly during much of the year and in many localities were rated by crop reporters at the lowest levels since the worst drouth years of the thirties.

Pioneer Grain Man, Norris Leach, Dies

PORTLAND—Norris A. Leach, one of the pioneers in the grain industry of the Pacific Northwest, died in a Portland hospital Dec. 21.

Mr. Leach had retired in 1931 from his position as vice president and general manager of Kerr, Gifford & Co. with whom he had been associated since the turn of the century. He would have been 90 on Jan. 2.

Mr. Leach, since his retirement in 1931, had not been active in business but retained his interest in civic affairs. He was a past president of the Portland Grain Exchange and a director in the Chamber of Commerce.

Survivors include two daughters, Mrs. Martin Dopplemaier and Mrs. Harry Miller, both of Portland. Funeral services were held Dec. 26.

Raleigh, N.C., Facilities Expanded by Aeroglide

RALEIGH, N.C. — The Aeroglide Corp. has acquired a second plant here for the production of grain driers. Located two blocks from the main office, the plant is served by the same personnel as the main plant.

The new plant has 40,000 sq. ft. of space and is being used for manufacturing as well as warehousing and will enable the company to serve customers more promptly, officials said.

Production of Millfeed Holds Steady

Production of millfeed in tons for week ending Dec. 21, and prior two weeks, together with season total of (1) principal mills in Nebraska, Kansas and Oklahoma and the cities of Kansas City and St. Joseph; (2) principal mills of Minnesota, Iowa, North and South Dakota and Montana, including Minneapolis, St. Paul and Duluth-Superior; (3) mills of Buffalo, N.Y. Production computed on the basis of 72% flour production.

	Southwest*		Northwest*		Buffalo†		Combined**	
	Weekly production	Crop year to date	Weekly production	Crop year to date	Weekly production	Crop year to date	Weekly production	Crop yr. to date
Dec. 17-21	27,277	664,022	14,167	351,571	12,828	281,856	54,272	1,297,449
Prev. week	‡28,343		‡13,374		12,634		‡54,351	
Two wks. ago	27,414		14,697		11,682		53,793	
1955	26,081	641,412	12,346	344,821	11,731	219,736	50,158	1,205,969
1954	24,954	624,840	13,564	441,864	11,491	267,650	50,009	1,334,354
1953	23,494	599,603	13,673	349,271	10,392	255,839	47,559	1,204,713
1952	24,724	626,452	15,232	384,288	9,829	256,113	49,785	1,266,853

*Principal mills. **74% of total capacity. †All mills. ‡Revised.

MARKETS

(Continued from page 2)

most of this week's minimum sales volume, and many plants were operated on only a three-day schedule. Formula feed prices remained steady.

Northeast

The chief feature of a slightly improved formula feed market this week was the rise in freight rates, which will put an additional burden on feed costs. Sales were up a little from the preceding week, but the outlook is for dull business during the holiday period.

Dairy feed demand is coming along pretty well, but egg mashes again accounted for the bulk of sales. Broiler feeds are still in the doldrums. There was some turnover in growing mashes for pullets destined for laying flocks.

Demand for broilers is expected to improve after the holidays. The broiler market didn't fare very well during this period, and broilers in the Buffalo area were weak. Eggs held just steady after their recent weakness.

The trend of ingredient prices was irregular, with most grains edging higher.

Running time of formula feed manufacturers averaged 40 hours last week.

Southeast

With the shortened work week, feed business in the Southeast has remained dull.

Some sellers indicate they will unload inventories of ground snap corn beginning immediately, which may take some pressure from the supply side of this particular material. Broiler markets are reported to be about unchanged and possibly a little on the stronger side the last few days. Baby chick placements remain high, and producers complain about no profits.

Many cottonseed mills have already completed operations for this season, while others report that they will go down permanently during the month of January. Citrus pulp production is in practically full swing, and the peak is expected to be reached some time during January. Production should begin tapering off in February. Prices are expected to hold about steady.

The assessment of floor taxes has held off buying this week, and most of the trade expects that there will be good buying early next week for arrival shortly after the first of the year

Central States

Because of the holiday season, feed business in the central states encountered a lull during the week ending Dec. 26, and observers expect little of a long-term nature to be executed until after the turn of the year.

The quiet period, with most plants closed or working skeleton crews Dec. 24 and 25, with similar plans for Dec. 31 and Jan. 1, gave observers an opportunity to take stock of their position, and project a look into the year ahead. The consensus is that business during 1956, while not a record, does not occasion the use of a crying towel, and that 1957 will offer many interesting challenges. Business is expected to be better, depending, of course, on commendable performance by all segments of the feed industry.

Looking back, one feed manufacturer said 1956 had been an interesting one, with important changes taking place. The most significant continuing shift, he said, has been the trend toward larger feeding units. This has been dictated by economic currents in agriculture as a whole, he believes, and to take full advantage of the situation and avoid being hurt, the feed industry will have to stay alert, adjusting its operations to changing needs.

The dealer, he believes, remains one of the most important cogs in the feed industry machinery. Dealers must learn to get out and sell at the local level, offering service and more service, he says. A dealer cannot expect a feed manufacturer to come into his area for resale and expect the cost of this operation to be tacked on to the cost of feed to be paid by the consumer. He must train his own men and go out after the business. In short, he must become educated to his job. By doing this, he can eliminate

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one of his own major problems, which seems to be direct selling on the part of some feed makers. Direct selling, it is thought, develops because of a vacuum in a community permitted to develop because the feed dealer is not performing a complete job. He might need to offer bulk service, make more calls, or several other moves or combinations, but a local dealer can do a better job of servicing an account than a direct seller, one manufacturer believes, and it is his own fault if he is denied this opportunity.

One manufacturer, however, said he believes a few manufacturers resorted to direct selling unnecessarily during 1956.

The challenge in 1957, some tradesmen say, will be in good hard selling, improvement of feeds and conversions and expansion of service. There will be many gadgets, deals, false claims, discounts and gimmicks, they say, but in the final analysis good common sense will prevail and prove to be the most profitable approach.

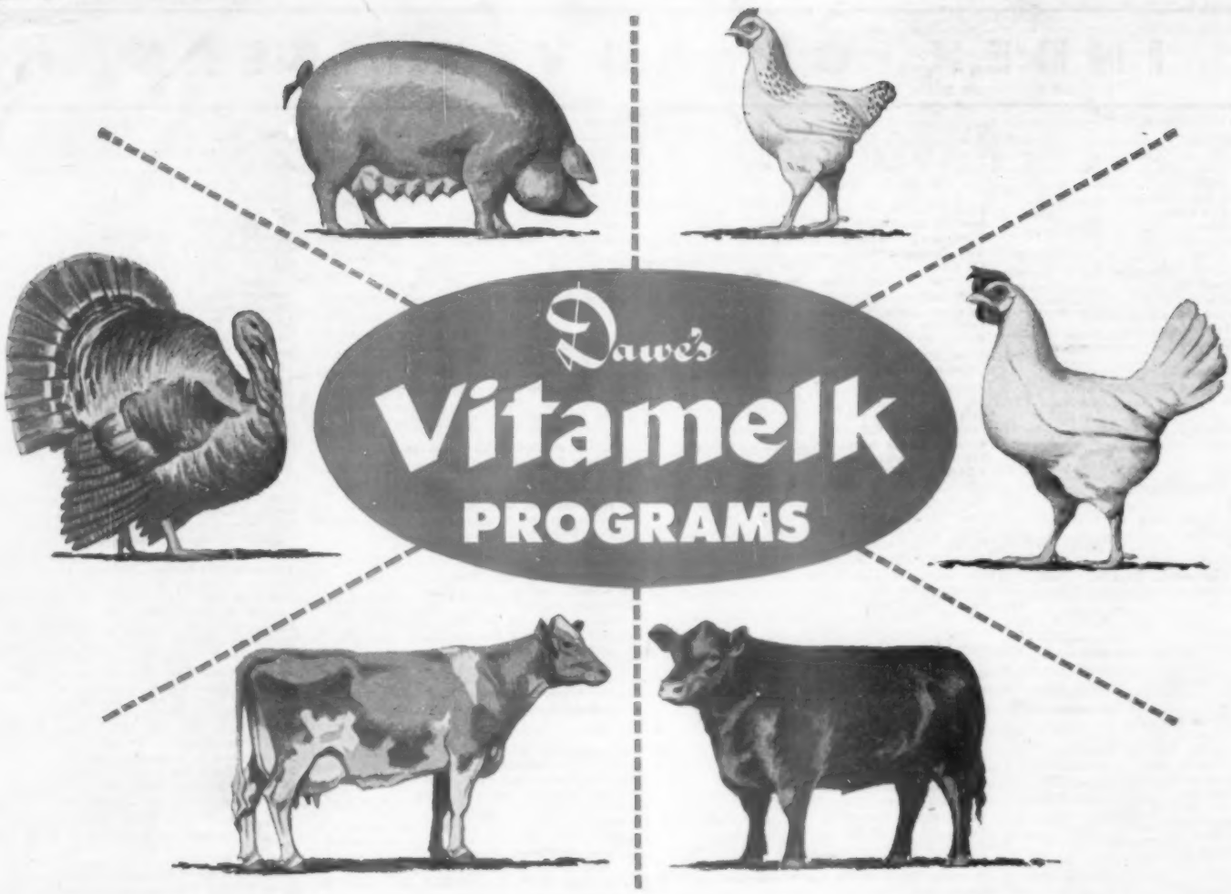
Pacific Northwest

The formula feed trade was very quiet, and it is expected that there will be little of note in the trade for the next couple of weeks other than the inevitable cutting down of mill running time.

One feature of interest is that both millers and brokers are tending more and more to eliminate office and plant parties, giving the help time off with pay instead. This has reduced mill running time.

Weather conditions have been satisfactory for this time of the year, with little or no snow in either eastern or western Washington. Movement of hay across the mountain passes is on a steady basis, and the same is true of grain movements. Truckers are not having the difficulty—at least so far this year—that they did a year ago in getting access to farm and country storage, and thus the market has been quiet, with a regular flow of hay and grain across the mountain passes from the eastern part of the state. Markets as a result have been stable and without feature, with prices for both barley and oats holding at slightly above loan levels. Hay has held steady for some weeks at $35 to $36 ton, f.o.b., U.S. No. 2 green, basis truck lots, western Washington.

Holiday dullness promises to continue for another week or ten days. The trade is not paying so much attention to foreign news as it did 60 days ago, and the feeling appears to be growing that no sudden change in the international situation is likely. Buyers are very cautious and are watching domestic livestock and poultry prices much more than political developments.



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